AIRLINE MAINTENANCE PRACTICES

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BEFORE THE

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

OF THE

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION HOUSE OF REPRESENTATIVES

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AIRLINE MAINTENANCE PRACTICES

TUESDAY, OCTOBER 20, 1987

U.S. House of Representatives,
Subcommittee on Investigations and Oversight,
Committee on Public Works and Transportation,
Washington, DC.

The subcommittee met, pursuant to recess, at 10:12 a.m., in room 2167, Rayburn House Office Building, Hon. James L. Oberstar (chairman of the subcommittee) presiding.

Mr. **Oberstar.** The Subcommittee on Investigations and Oversight will come to order.

This morning, the subcommittee continues its inquiry into airline maintenance. Two years ago we looked at the way in which FAA conducts its surveillance of carrier maintenance. FAA—and then DOT—in the course of those hearings testified that they saw no relationship between fitness and economics, between what it costs to do maintenance and conducting that maintenance, and the fitness of an operator to continue to hold and maintain its certificate.

In the course of inquiry into the crash of Galaxy Airlines the subcommittee found that in the deregulated atmosphere that we were operating in at the time, the owner of Galaxy Airlines, Mr. Sheridan, was able to buy a certificate from Carefree Travel Agency of Miami without undergoing the fitness examination required of anyone who would have been in that same position prior to deregulation.

In the course of the hearing into Galaxy Airlines and the conduct of maintenance, we found that the FAA was grossly understaffed. We had testimony from FAA witnesses that they were "inspecting paperwork, not engine work," and the subcommittee focus on those circumstances triggered action by the House to add $15 million to the FAA budget for increased numbers of inspection personnel.

When Congress deregulated aviation, it did not deregulate safety. Safety, of course, remains the first line responsibility of the airlines, but it is also the responsibility of the FAA, which sets the standards and totally regulates this industry.

The question is, Are maintenance standards in the airline industry as high as they should be to guarantee the flying public the margin of safety to which it is entitled? It is incumbent upon Congress, upon the airline companies themselves, upon the flightcrews, the mechanics, and especially the FAA, to ensure that safety is never sacrificed on the altar of economics. And that is a theme that has run through the hearings of this subcommittee time and again, whether it is in maintenance, or in air traffic control, or in weather and aviation safety.

Aviation operates under vastly different circumstances today than it did a decade ago. In the fiercely competitive environment in which the airline industry operates, airlines have had to cut costs wherever possible. Deregulation has changed the way in which maintenance is conducted. Under the old linear system, more aircraft spent the night where major repairs could be done. Under the hub-and-spoke system, aircraft oftentimes are overnight at outlying airports without major maintenance facilities.

During the course of these hearings we will hear about the pressures that the hub-and-spoke system has put on maintenance. We will also hear about contract maintenance. In the wake of deregulation, there has been a growing tendency for airlines to contract with other airlines for their own maintenance needs. For some airlines, that's been a growing source of business. While contract maintenance in some cases is an economic necessity, it is also a procedure that demands communication, coordination and intensive oversight by the FAA.

Another item we are going to pursue is the interpretation by the FAA and the airlines of the Minimum Equipment List language. The purpose of the MEL is to give guidance to flightcrews when dispatching with inoperative systems or components. The FAA, in conjunction with manufacturers, airlines and pilots, develops a Master Minimum Equipment List for each aircraft model. Based upon the MMEL, each airline then in turn develops its own Minimum Equipment List, which is reviewed and approved by the principal maintenance and operations inspectors for the FAA. That language in the MMEL includes this wording: "In the event of malfunction or failure, the airplane may continue the flight or series of flights, but shall not depart an airport where repairs or replacements can be made." That's an FAR, Federal Air Regulation.

It appears to some airlines, however, that before a failed system or component must be replaced or repaired, these conditions must all be met: one, a replacement part must be available; two, a mechanic must be available; and three, the time allotted for repair or replacement must not interfere with the flight schedule. We have seen these three factors dictate a pattern of behavior in the airline industry.

This "fix-at-your-convenience" interpretation is perfectly acceptable, according to the FAA. Whether it is in the best interest of safety is a different question and one we intend to pursue with the FAA.

We will also evaluate FAA's performance in overseeing airline maintenance, and will probe into the circumstances surrounding an incident that occurred on September 15th and 16th. That event, which is now being investigated by the National Transportation Safety Board, involved an Eastern Airlines flight which had major structural damage after a hard landing in Tulsa, Oklahoma, yet the aircraft was allowed to proceed to Kansas City the next day, and then on to Chicago before it was grounded for repairs.

Our purpose is not to cast blame or point fingers or find victims, but to take a look at the real world of airline maintenance, and to do so through the prism of a specific incident. We expect these hearings to be both enlightening and instructive and, hopefully, curative as we hear from those who fly and maintain aircraft.

The Chair recognizes the gentleman from New York, Mr. Molinari.

Mr. **Molinari**. Thank you, Mr. Chairman. On behalf of the ranking member, Mr. Clinger, and sharing his same views, I'd like to read his opening statement.

Thank you, Mr. Chairman, and thank you for scheduling this series of hearings on maintenance and safety practices in the commercial aviation industry. I cannot think of a more timely issue, nor one that has been in the forefront of public attention for such an extended period of time than the issue of safety in our airways.

All of us—carriers, legislators, regulators—have a deep responsibility to the public to assess the true impact of airline deregulation. Beyond the obvious results stemming from deregulation, it behooves us to determine whether maintenance and safety practices have been similarly affected by this new environment.

Ten years have passed since deregulation was enacted. During that time our airline industry has undergone tremendous change, and I think it's fair to say this change has also been accompanied by tremendous stress. In 1978, commercial aviation hauled 275 million passengers; ten years later, the projected passenger load is anticipated to exceed this level by an additional 200 million. Since 1984, traffic using our airports and air traffic control system has increased by over 25 percent.

The accommodation of this increase has not been without further aggravation, as we all know. The firing of air traffic controllers imposed tremendous burdens on the system. Spending from the Aviation Trust Fund has been unfairly constrained by Congress, depriving passengers and carriers of deserved improvements already paid for. Consolidation among the carriers has created difficulties merging the separate pieces into smoothly-functioning companies.

Let me also emphasize that we at the Federal level have failed to meet the rise in demand in a responsible manner. I believe staffing at the Federal Aviation Administration needs to be increased significantly to provide adequate guidance and oversight to the industry. We sorely need to improve the numerical ratio of inspectors and operational personnel to reflect the proportionate increase in the number of commercial aircraft in use today.

A chief feature of this past decade's growth has been the industry's practice of extracting greater utilization from their fleets. Not only do they keep older aircraft in inventory, but because of the challenges brought on by increased competition, they've also increased the number of hours each plane is flown on a daily basis. Just the other day I saw a news item reporting that one carrier is now scheduling its fleet of Boeing 737's an average of almost 12 hours a day. Ten years ago, such a figure would have been unthinkable. And if you broached the term "hub and spoke system" in 1978, someone would have thought you were describing a piece of cycling equipment. Today, hub and spoke systems force carriers to turn planes around at a terminal in a matter of 30 or 40 minutes, again, an alien notion a decade ago.

What has the intense utilization done to our safety record, which I think is a key question? If one were to take a cursory inspection of the industry today, they would no doubt believe our system is as safe as ever. We're flying more people than at any time in our history with a safety record that is the envy of the world.

Counteracting this assumption, though, has been a rising number of incidents, reports of which give rise to anxiety about the true state of our system. These include near mid-airs, collapsing landing gears, and engines not being serviced properly, leading to in-flight shutdowns and failures. The press doesn't make a general point of telling us what went right on their daily newscasts, but they're certainly quick to point out faults, and recently it seems we've been subjected to a number of disquieting reports about aviation safety.

Certainly, all of these instances are not attributable to carriers' maintenance programs. But I think it's safe to say that, in the eyes of the public, commercial aviation is not as safe as it once was.

This set of hearings is designed to address that public perception and to educate this subcommittee about maintenance practices in a deregulated market.

Reflecting back on the pre-1978 environment, it is probably safe to say we lived in a perfect world when discussing maintenance practices. Fares and schedules were regulated, allowing carriers the comfort to build in sufficient margins in their ticket prices to more than adequately finance repair, maintenance, and spare parts inventories. Today, maintenance is treated just like any other expense of doing business, and I have no doubt some carriers have, at one time or another, opted to pare this account in order to limit losses.

I look forward to hearing testimony from today's witnesses. I trust their statements are offered in a vein of constructive criticism and enlightened observation.

I also have a statement for the record from Representative Helen Bentley.

Mr. **Oberstar**. Without objection, so ordered.

[Mrs. Bentley's statement follows:]

OPENING STATEMENT OF REPRESENTATIVE HELEN DELICH BENTLEY

Chairman Oberstar and Ranking Minority Member, Mr. Clinger, I commend both of you for conducting this two-day hearing to review air transportation safety and the role of deregulation with regard to airline maintenance practices. This subcommittee has the responsibility of carefully reviewing policies affecting the federal government and make recommendations to the full committee for future legislation designed to correct existing problems.

Air transportation has emerged as increasingly important as more and more people choose to travel by air. With the drastic increase in the numbers of air passengers comes the responsibility of ensuring that added safety requirements are properly implemented.

However, deregulation has set the stage for less government regulation and allowed greater freedom on behalf of the private air carrier. Airlines have been forced to cut costs to be in a position to compete effectively.

I look forward to hearing from our witnesses today and tomorrow to gain a better understanding of the role that deregulation has played in shaping policies that direct air safety and maintenance requirements. I am convinced that if we are to have safe air travel during deregulation then minimum FAA safety requirements must be met and enforced.

Thank you for calling this hearing together. I offer my assistance and cooperation in review of air safety and airline maintenance practices.

Mr. **Molinari**. Let me just add for myself, Mr. Chairman, that I echo the remarks that you said in your opening statement. I think this is one of the most serious areas facing us today and one where FAA has not fulfilled its role. I think that's obvious from some of the statements and from the testimony that has been pre-submitted. It's a very critical area, and I congratulate you, Mr. Chairman, for putting it on so early.

Mr. **OBERSTAR**. I thank the gentleman for those remarks.

Does the gentleman from Georgia have an opening statement?

Mr. **ROWLAND**. Thank you, Mr. Chairman. I commend you also for having these hearings. Certainly, it is vitally important to our transportation system in this country that we maintain a safe system in our airways.

I agree with you that safety is a shared responsibility. It is shared by the Federal Aviation Administration and it is also shared by the airlines. We have had many hearings during the past several years in this Subcommittee on Investigations and Oversight concerning the margin of safety in our airways system, and it has been my opinion that there has been a steady decrease in that margin of safety.

It seems that after deregulation of the airways in 1978, followed by the air traffic controllers' strike in 1981, there was a one-two punch that was delivered to our airways system, and we found that we do not have a sufficient number of full performance level air traffic controllers now. Weather monitoring equipment is not in place as it should be because we are unable to get the Aviation Trust Fund out of the unified budget. There is a strong possibility, I think, that we may be faced with sequestration now, which will further impair the margin of safety, in my opinion.

I think there are many different factors that come to bear when we say there is a decrease in the margin of safety in our airways system. I look forward to hearing from those who will testify today concerning the margin of safety in our maintenance standards, which I think plays a very important part in this also.

Again, I commend you on these hearings this morning.

Mr. **OBERSTAR**. I thank the gentleman for those remarks.

The gentlewoman from Connecticut?

Ms. **JOHNSON**. Thank you, Mr. Chairman.

In my estimation, the primary goal of sound oversight is to identify problems before they create safety problems and cost lives. And I commend you on calling this hearing at this time because I, for one, have begun to hear from travel agents and from people who travel a lot, on incidences of delay that affirm in their minds that maintenance problems out there are on the verge of mushrooming as a result of neglect and could, in the near future, pose a very serious safety problem to the system. It certainly stands to reason that a system experiencing the dramatic increase in passenger air travel that our system has experienced in recent years—seeing the mushrooming of new, small airlines; seeing the dramatic increase in the use of private planes for both recreational and business purposes—is a system under stress. Without question, our experience from every other sector demonstrates that when a system is under stress, competition is intense, costs are scrutinized, and maintenance is often the first to go as it has been in the public sector.

It is our job to examine this issue carefully and to try to insure that maintenance which is so critical to preventing accidents, so critical to the safety of our air travel system, is guaranteed to our citizens. Consequently, I look forward to being with you throughout this day of hearings, although I do have reconciliation in the Budget Committee. But I consider this a very important hearing and commend you on having it, and it's a serious responsibility on our part as the Investigations and Oversight Subcommittee of Public Works and Transportation.

Mr. **Oberstar**. Thank you very much for those very thoughtful remarks. As I have said many times, the purpose of this subcommittee is to be preventive, not reactive. Our objective has been to try to anticipate problems and seek solutions before they develop into serious conditions, and that's why this hearing was scheduled literally since the beginning of this year. We've been developing the information very intensively.

The gentleman from North Carolina?

Mr. **Lancaster**. Mr. Chairman, thank you for calling these hearings.

The press makes much of lost baggage and flight delays, but these problems pale in comparison when we consider the life and death situation in proper maintenance of our airlines. Those are simply matters that cause inconvenience. Improper maintenance can cause death.

And of course, not only do we have millions of passengers who are subject to the loss of life or injury due to improper maintenance, but we have thousands of airline employees who, every day, risk their lives in getting in those planes to fly them from destination to destination. It is important at this time, as the airline industry is stretched to its very limit, for us to call attention to the needs of maintenance and to make certain that in fact that maintenance is being performed and, as you say, that ounce of prevention is applied rather than the cure.

Thank you again for calling this hearing and allowing me to participate.

Mr. **Oberstar**. I thank the gentleman for those remarks.

We are happy to welcome to the hearing the former chairman of this subcommittee and now the Chairman of the Subcommittee on Aviation, the gentleman from California, Mr. Mineta.

Mr. **Mineta**. I'd like to join my colleagues in commending you, Mr. Chairman, on calling these hearings. I've always maintained that with the concerns that people have had about whether the sky is safe, most of the concern has been about air traffic control. But as you very well know, if you don't have enough air traffic controllers you can always—through flow control—decide how many aircraft will be in the air. But with maintenance issues you never know when something will go wrong. I have always maintained that we don't have enough "cops on the beat," the safety inspectors within the FAA structure, to keep the feet of the airlines to the fire.

So I think it's timely that these hearings are being held on airline maintenance and making sure that focus and attention is being given to this subject. I just want to commend you and your staff, on both sides of the aisle—and Mr. Molinari and our staff—for the work that you are doing in this area.

Thank you very much, Mr. Chairman.

Mr. **Oberstar**. Thank you.

The Chair would like to observe also that the Chair is not flying blind in these hearings. I have visited the maintenance facilities of airlines, taken the time to go through the operation from stem to stern, to see how maintenance is conducted, how records are kept, how computer operations are conducted in connection with airline maintenance. So I think I feel a fairly certain grasp of the issues that we are dealing with.

Our first witness this morning, Ms. Nancy Naismith, is Program Manager, Science, Education and Transportation Program, Office of Technology Assessment, accompanied by Mr. Kevin Dopart, Analyst, and Mr. Len Wojcik, Analyst.

OTA, at the direction of this subcommittee and a subcommittee of the Committee on Energy and Commerce, has been looking at airline maintenance practices in preparation for a major report due next spring; this will preview that report. We welcome your presence this morning. We want to thank you for taking this time to give us a mid-term look at the progress of the OTA study.

TESTIMONY OF NANCY NAISMITH, PROGRAM MANAGER, SCIENCE, EDUCATION, AND TRANSPORTATION PROGRAM, OFFICE OF TECHNOLOGY ASSESSMENT, ACCOMPANIED BY KEVIN DOPART, ANALYST, AND LEONARD WOJCIK, ANALYST

Ms. **Naismith**. Thank you, Mr. Chairman. It is a pleasure to be here, and it's a pleasure for us to begin to be helpful to the subcommittee and the committee as we move through the study, which we do plan to complete this spring and deliver to you for your use in making these difficult decisions.

I would like to share with you today some preliminary findings in the form of those issues related to maintenance on which OTA has decided to concentrate the resources of our study. While we cannot tell you the definitive impact of these practices and issues, we have identified these as important questions that we want to give you more information on, so this will be a first look at the information that we will have more fully developed in a few months.

As we all know, maintenance practices and operations of high quality are the mutual responsibility of the airline industry and of the FAA. If we look first at the airline industry, everyone in this room is aware that the industry has been reshaped markedly since economic deregulation permitted, essentially, open free entry. New airlines appeared, enjoyed success for two or three years, and were swallowed by larger, well-established companies. Some airlines failed, restructured, or were merged.

To avoid the costs associated with full-fledged maintenance programs, new companies—and some established airlines—have contracted with other airlines or with maintenance companies for maintenance service.

Hub and spoke operations, as the Chairman mentioned, have put new demands on maintenance. These operations seem to be a permanent part of airline practice. It is impossible for an airline to provide sufficient maintenance personnel to cope with the repair needs, including the time pressures, at each spoke stop. Thus, even airlines with large, permanent maintenance staffs at their main bases may rely on contract personnel or arrange with other airlines that have maintenance crews at spoke locations.

We are spending some time on this question in the OTA study, and hope to be able to advise you on the impacts of this on maintenance.

Regardless of how pervasive the changes are, we can certainly see that ensuring the quality of maintenance is more difficult for the airlines, who now must deal with at least one level of contractors. The companies providing the maintenance do not bear the primary responsibility in the case of accident or violation of safety standards, so they cannot have the same motivation to do the highest quality work.

It is our preliminary view that the FAA's inspection program and standards have not altered sufficiently to assure that the Federal role in responding to these new changes is adequate.

Maintenance records need to be meticulously kept, as they contain important information about aircraft and form the major check used by the FAA to evaluate the adequacy of airline maintenance. Airline mergers and management changes have created situations that make recordkeeping extremely difficult. Even when management understands the need for good records, ensuring adequate and complete recordkeeping is difficult when work is performed at remote locations by contract personnel. Again, little evidence exists that FAA has undertaken compensatory actions. Those records are important because they would be the basis of regulatory changes.

Federal regulations currently require that repair records, certifying that the work has been completed, must be signed by a licensed mechanic. Of course, nothing prevents a company from using unlicensed mechanics to carry out the work, so long as licensed personnel sign the release. Meeting on-time service goals set by managers may create pressures on the licensed mechanic to hasten approval so that the aircraft can return to service, thus hurrying procedures and perhaps preventing careful attention to details of the repair.

Finally, airline cost-cutting in some instances has meant reductions in the size of engineering departments. Aircraft manufacturers, such as Boeing, find themselves supplying more maintenance information and, in some cases, entire maintenance programs that had formerly been developed by individual airlines. And although the manufacturers' maintenance programs are of very high quality, airline engineering experience has long served as an added assurance of quality. Where this expertise is diminished, one of the levels of redundancy that is so important in our system of ensuring safety has been reduced.

Perhaps none of these industry changes would be concerns for safety if they were balanced on the Federal side by countermeasures or commensurate changes in FAA standards and procedures. However, such is not the case, and it is on the need for such changes that we know this committee wishes to focus.

Most of OTA's concerns about the adequacy of FAA inspection programs are not new, and they have been well-documented by the

Congress, the DOT, and other groups. Unfortunately, they persist despite public airing. Well-publicized inspections, such as the National Air Transportation Inspection Program and the periodic follow-ups of airlines, are very important to maintaining safety; however, the FAA structure supporting its inspector cadre is inadequate and outdated. Inspection standards, procedures and recordkeeping vary from region to region. Although a handbook that will standardize procedures is nearing completion, the field office personnel will still have to be trained to use and follow it. The regional offices of the FAA are hiring new inspectors as fast as they can, but the training program—centralized in the FAA facility in Oklahoma City—is widely considered unsatisfactory. The training is often of poor quality and it does not provide graduates with the professional tools or information they need to return to their home offices as inspectors and begin work in the field.

As long as a well-planned and -executed centralized program is unavailable, the regional offices must continue to train their own inspectors. Accordingly, there are varying standards and practices.

To keep current with changes in industry practices, the FAA needs to continue development of regulations and standards related to maintenance. An important example is the Minimum Equipment List, which specifies the equipment that must be in operating condition before a commercial aircraft can fly legally.

Regulatory and standard-setting processes at FAA are slow-moving. Moreover, despite the longevity of many problems—and even when agreement exists within the industry on the nature of a problem—the FAA does not have good records as a basis for research or adequate background information to support rulemaking. Consequently, while the accident record reflects no drastic deterioration in airline maintenance, regulatory responses for the changes in industry procedures detailed above are very difficult to develop and implement.

A major maintenance- and inspection-related record keeping program, the Work Program Management System, called WPMS, is being prepared at headquarters and gradually being implemented in the regional and field offices. It now provides centrally-stored inspection records in a mainframe computer; however, the field offices do not have easy access to the records they have provided to the centralized data base. Thus, unless they develop their own recordkeeping systems, they do not have good records of their own inspections of the airlines for which they are responsible.

Regional hardware and software programs are not now compatible with those at Oklahoma City. Plans are underway for a new hardware purchase, currently scheduled for 1990, that will provide equipment to enable field offices to access their records. For now, inspectors in one office needing information about an airline's practices from another field office have no automated information resource available. They must use the telephone or hard copy. These are voluminous printouts that are very difficult to access.

As you can see, OTA's primary concern in this study related to airline maintenance rests more on the adequacy of the FAA response to changes in airline practices than on the industry. Comprehensive and systematic efforts by the FAA to set goals for training and recordkeeping systems, allocate and provide resources to develop and implement programs to meet these goals, and strong management guidance to ensure national consistency are needed. The FAA has recognized some of these problems and has been forthright in discussions about them with OTA. Unfortunately, these difficulties are not going to be resolved quickly.

It is a pleasure for us to be working with the subcommittee and we look forward to giving you more complete information in the spring. I would be happy to try to answer some questions. I am accompanied by Mr. Wojcik and Mr. Dopart, who are more expert in the details of these programs than I, and we hope we can be of assistance to you.

Mr. **Oberstar**. Thank you very, very much for your testimony, condensed from an enormous amount of documentation and inquiry that has preceded this presentation, and much more yet to come. But nonetheless, a very thorough, professional and dispassionate look at the FAA's responsibility and role in overseeing airline maintenance. You have provided us with an exceptionally well-documented and clearly analytical look at the problem, the condition, the prospects. It is one that is chilling. It is a judgment upon the FAA. And while your analysis of the shortcomings is balanced with observations about, A, the FAA's willingness to admit shortcomings, and B, efforts to respond to the problems, the point is—as you well say at the outset of your remarks—these are conditions and problems that have been well documented in the past, but to which the FAA has failed to face up until after the disaster has struck.

We have tried time and again in this committee to get this agency to be preventive, to look beyond the horizon, to act before the problems occur. They continue to respond only after problems become publicly known and widespread.

Could you for a moment discuss the methodology OTA has used in developing this study and developing the framework of reference?

Ms. **Naismith**. In this study, as in all OTA studies, we draw heavily on the private sector itself. We involve a great many people from the aviation industry through several mechanisms. We have an advisory panel of people who work closely with us to guide us and ensure that our questions are fair and balanced, and that we are asking the right questions. I would be happy to submit a list of those advisors if the subcommittee would like to see it.

[Material supplied by Ms. Naismith follows:]

MAINTAINING SAFETY IN THE AVIATION AND MOTOR CARRIER INDUSTRIES IN A COMPETITIVE ENVIRONMENT

Science, Education, and Transportation Program

Office of Technology Assessment
U.S. Congress

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Ms. NAISMITH. The advisory panel meets with us on many occasions and helps direct our work. We do have access to the Executive Branch through the FAA, which have been cooperative in providing us with information. We have been able to visit the training facilities, the regional offices of the FAA, and several of my remarks did reflect decisions we have come to after visiting the FAA regional offices, and seeing the sort of stresses that are created by a system that is having to work it out on a regional basis because this central part of the system is somewhat behind.

We are conducting interviews and detailed discussions with airline maintenance supervisors at the highest levels to try to help us understand the complex interactions that are created by—all the changes going on in the airline industry, these do affect the economics. A simple way to say that is—everything counts. Every time an airline makes an adjustment to be more competitive, of course, it affects the bottom line on the balance sheet, and everything ripples through. So we have spent a great deal of time talking with airline vice-presidents and maintenance supervisors and mechanics, and I know people will testify later this morning who are closer to these issues, simply trying to understand how these complicated effects come down and affect the maintenance procedures themselves.

And of course, as in all OTA studies, we work also with contractor information and with a great deal of external and internal review. We make our findings available to the FAA and to interested citizens, to citizen groups, consumer groups, and ask them to help refract and be sure that our information is correct. And we work closely with the Congressional staffs to be sure that we are giving you the information that is the most useful.

Is that responsive, Mr. Chairman?

Mr. OBERSTAR. Yes. I think that's exactly what I had in mind. I wanted you to lay out the wide range of involvement of the private sector, as well as the Executive Branch and the Legislative Branch personnel, because I am greatly impressed with the objectivity of OTA's approach and the openness of the process and hearing from all those who are involved. I think it's important to have that on public record as you present this testimony and as you continue with the study.

In the course of your analyses, have you reviewed financial data related to maintenance, maintenance costs, as a percentage of operating revenue that the airline industry or individual airlines have invested in their maintenance? And what are your observations about such financial data?

Ms. NAISMITH. Could I ask that Mr. Dopart respond to that question?

Mr. OBERSTAR. Please do.

Mr. DOPART. Yes, sir. We've reviewed some of the maintenance data that's submitted to the Department of Transportation by the airlines. We have also had some contractors working in more detail on that information. What we've reviewed, though, are maintenance costs based on constant dollars. The trend for the major carriers is that there has been no cost-cutting. It's been pretty much steady, with some fluctuations, since the late 1970's. However, for individual carriers you may find some wide-ranging changes, and actually some significant difference among the carriers. But in general trends, it's been fairly steady.

Mr. OBERSTAR. Is that—when you say "steady," is that as a percentage of operating revenues? Steady as a percentage of CPI, reflecting increases in CPI, or what?

Mr. DOPART. We've converted the cost data to constant dollars using the CPI, but what we've used to track the costs have been unit costs—either flight equipment maintenance or total maintenance—per aircraft hour or per aircraft departure, and by aircraft types. We've looked at, say, the 727-200 for a given carrier.

Along those lines there haven't been distinct changes, although as a percentage there have been some changes in cost per total revenue. But that varies significantly among the carriers.

Mr. OBERSTAR. In the variations, is there a relationship between a carrier's overall financial health and the amount it contributes to maintenance?

Mr. DOPART. We have not looked at that.

Mr. OBERSTAR. You have not looked at it from that standpoint. Is there a correlation between a carrier's financial condition and its maintenance level? That's another way of saying the same thing I asked first.

Mr. DOPART. The same thing. We are trying to approach that issue, but we haven't come to a finding that we can say conclusively.

Mr. OBERSTAR. So you are not able to reach any conclusions about the amount of spending on maintenance—that is, conclusions about its effect on safety and maintenance?

Mr. DOPART. No. Not from the financial condition or total expenditures. It's only along the lines that I discussed earlier.

Mr. OBERSTAR. One of the most shocking statements in OTA's testimony is that FAA's inspection program and standards have not evolved sufficiently to keep up with changing technology and changing demands, the vast increase in the number of aircraft, and other factors, without reciting them here.

To sufficiently assure that the Federal role is responding to industry changes or meeting new needs—that is a very chilling reality. Are there regulatory standards that should be reexamined? Will your report look at such factors as the Minimum Equipment List?

Ms. NAISMITH. May I make two comments, Mr. Chairman?

Mr. OBERSTAR. Yes.

Ms. NAISMITH. The report will look at a number of specific issues, specific regulatory practices of the agency. There have been, clearly, problems with the number of inspections and who was available to conduct them, how they are inspected.

Might I add also that it is very clear from our work with our advisory panels and, I think, from the hearings that have been conducted here, that we are in a period of redefinition of what constitutes adequate regulation in a deregulated environment. I am sure that the committee, when they meet with the agency, spends a great deal of time trying to understand how the agency understands itself to be functioning in the new environment.

The industry has changed rapidly and dramatically and has provided cheaper fares and a lot of air service for a lot of people. One of the things we are looking at is whether or not the agency has adequate leadership and a conception of how the agency needs to function in this new environment, which is a difficult thing to know. But until some decisions are made about the strength and, of course, the nature of regulation to maintain safety in a deregulated environment, it is not simply a problem of how many inspectors there are, although that is a very critical problem.

Mr. MINETA. Mr. Chairman?

Mr. OBERSTAR. I'll yield to the gentleman in just a moment.

One of the problems that you raised and one that this subcommittee has raised is this matter of centralized recordkeeping and the fiefdoms of FAA in their regional operations. I'll get to that in a moment, but right now I'll yield to the gentleman from California.

Mr. MINETA. I appreciate the Chairman yielding.

Ms. Naismith, when we deregulated the airline industry we deregulated the economic regulation of the airlines. We did not deregulate safety. In fact, as it related to the regional carriers or the commuter carriers, we even beefed up the laws relating to maintenance on commuter aircraft to near Part 121 standards.

Now, are you saying that there is a relaxation of the enforcement standards? Or that there aren't enough personnel to maintain a level of maintenance at the air carrier level? Or—I'm not sure what you're saying.

Ms. NAISMITH. I apologize. I perhaps overstated my point.

There are problems—there need to be a lot of inspectors, and there needs to be better recordkeeping. The resources of the FAA have, I think you will find, not been adequate to do this. I was speaking more to the fact that the FAA has many pressures on it. They are trying to respond to a lot of concerns in many areas. I am sure they still consider safety to be the primary concern, but we sense some feeling of the FAA trying to find a new pattern, trying to determine—not anything as specific as an equipment requirement, but in general, what the approach of the agency is to the industry. Should it be stronger? Should it be weaker? The economic changes do affect the whole industry's practices in complicated ways that are hard to see as yet.

Mr. MINETA. Despite that, shouldn't standards on safety be relatively steady and be maintained at a high level regardless of the peaks and valleys of the economics of the airline industry? It seems to me that maintenance ought to be at a certain level.

Ms. NAISMITH. Of course it should.

Mr. MINETA. Now, is the problem from the FAA perspective that they're taking general aviation inspectors and putting them onto commercial aviation jobs, so that a person who is usually used to a Cessna 172 gets with a DC-10, and then has problems?

Ms. NAISMITH. I don't think I can answer that question correctly. Perhaps I could submit some additional information to you. I would just have to say that until we look in more detail at these practices, I don't think I can responsibly answer that question.

Mr. MINETA. Thank you very much, Mr. Chairman.

Mr. OBERSTAR. Following up on the point I raised prior to Mr. Mineta's questions, the regionalization of the FAA and the differing application of FAR's in those several regions—what observations do you have further about the need for centralization? You've already observed that there needs to be a standardized expression of Federal Air Regulations in respect to safety and maintenance, and that the FAA is attempting to do something with this. But it's shocking that while the regional offices provide information to the mainframe computer at Oklahoma City, as you said on page 4 of your statement, the field offices do not have easy access to the very records that they provided to the centralized data base. And since they aren't adequately keeping their own records, how are they going to stay up with these problems?

Ms. NAISMITH. Well, it's almost impossible for them to do that. It is partly a problem of putting in new computer equipment, which is always difficult—delays and difficulties—but we highlighted this because it does make clear how very difficult it is to function in a system which requires a lot of complex information if the information is simply not available. And this situation is particularly difficult because the regional offices have to collect the information and then feed it in, and then essentially it disappears to them. So the only option they have would be to maintain their own data system which, of course, would be expensive and difficult.

As of right now, they simply can't get the data back out, so they have difficulties in their own regions. And of course, the FAA does not have the broad, complex information data base that they need to make their own decisions.

Mr. OBERSTAR. Well, effective recordkeeping is really the heart of an effective inspection system. If the FAA does not have good records as a basis for its actions with respect to those airlines, they can't do their job effectively and the airlines are going to drift. And we've seen that. In a hearing before this subcommittee two and a half years ago, a witness for the FAA said that the recordkeeping system at Galaxy Airlines was a "joke." That's an exact quote from his statement.

Well, they focused on Galaxy because 69 people died in a crash at Reno, Nevada. And when we asked the POI at the Miami FSDO, "What are you doing about"—the gentleman from New York was here and remembers that very well—"What are you doing about surveillance of maintenance?" He said, "We're inspecting paperwork, not engine work. Paperwork, not airframes. We don't have enough people to do the job before us." There are 1,000 aircraft that they are responsible for, and 30 inspectors. In fact, I take that back; it was 15 inspectors. That's not adequate to do the job. And if they aren't keeping records properly, they can't even follow up on that. So then the next step is, the airlines tend to discount the paperwork side of things. They don't even know if the work is being done properly.

So your focus on that aspect is crucially important. We won't pursue that further; the Chair has taken too much time.

I yield to the gentleman from New York.

Mr. MOLINARI. Ms. Naismith, in reviewing your statement I find it to be a very sobering assessment of what has happened since deregulation. I see such statements as "steps have been taken to avoid costs;" "it is impossible to provide sufficient maintenance personnel to cope with repair needs at each spoke stop;" "there is a lack of motivation on the part of some of those who are doing the repairs because they are not directly accountable;" "little evidence that FAA is meeting the problem;" "the reduction in the size of engineering departments;" and a statement that the training program at Oklahoma City, with respect to the inspectors themselves, is "widely considered unsatisfactory."

This appears to me to be a rather serious indictment of FAA. While I recognize that this is an interim report and your final report will not be completed until spring, I think it is very valuable information to us.

Based on your statement, I guess the $64 question is, do you believe that the system is less safe today than it was in 1978 when deregulation went into effect?

Ms. **NAISMITH**. This is the central issue we're wrestling with in this study, and may I say initially—because I do not wish to appear alarmist—there is nothing in the existing data that suggests that the system is less safe because of changes in maintenance. As Mr. Dopart pointed out, money is still being spent on maintenance. There is nothing in the accident data that shows a change based on any drop in mechanical surveillance or maintenance.

Now, I'd like to restate that we have in place a very redundant system. Lots of levels have been built into this system over time to ensure safety for all the obvious reasons. And the question that our advisory panel keeps raising and that we are trying to probe is, Are we somehow beginning to reduce the redundancy in the system, the levels of safety? Are things being set in motion that perhaps in the future may result in indicators that would show something a little different? There is no evidence that the system is less safe or that maintenance is not adequate. We cannot show that statistically. We have spent a great deal of time looking at all the numbers and it isn't there. And it certainly is still a very safe system.

The issue that we're trying to grope with is, Are we somehow making it less safe? Perhaps we're just used to a very safe and a very redundant system and we don't want any part of it to change at all. It's unrealistic to think there won't be some general adjustments in airline practices, given the competitive environment. And not to say, Mr. Mineta, that they will necessarily reduce safety, but everything counts.

There are lots of pressures on airlines. Perhaps changing the nature—or the size—of your engineering department doesn't change safety at all. Maybe it's a more efficient way to run an airline. We're not in a position to say that it necessarily reduces safety, but our advisors and our staff working on this study have felt that these questions need to be looked at. They do cause some uneasiness and in a period when people are trying to ensure that the system is very safe, one wonders.

So we hope to look in detail at these maintenance practices and try to give you some estimates of whether or not a real difference is occurring. I'm sorry I can't answer it yet, and I don't want to overstate it.

Mr. **MOLINARI**. I understand, and I appreciate that. I am concerned, though, when I hear you use a statement like, "it causes some uneasiness." I think some of us up here share that feeling in some cases, to greater or lesser degrees.

What do you mean by that, when you say it "causes you some uneasiness"? That leads me to believe that we are encountering some very serious problems. And if they're very serious and cause uneasiness, what does that mean to us? What are you trying to convey to us when you use that term, "uneasiness"?

Ms. **Naismith**. I am reflecting the fact that a great many people raised these questions with us, both within the industry, within consumer groups, Members of Congress and Congressional staff. The FAA, I think, is certainly concerned about them as well. And perhaps the most fair and accurate thing I can say is that we believe it is worth looking in more detail at these issues to try to give you better information.

Mr. **Molinari**. Let me look at this in an opposite direction. There are a number of statements, and I alluded to many of them before, where we see some shortfalls on the part of FAA due to lack of dedicated resources, poor management practices, or whatever. Were FAA to adopt procedures and dedicate the necessary resources, then would we wind up with a system that is safer than what we have today?

Ms. **Naismith**. I don't know. It would be a system that is more responsive to a lot of questions that are being raised, and it would certainly have faster answers for airlines.

Mr. **Molinari**. How widespread is this practice of the carriers using contract repair companies to do their work rather than their own because they don't have anybody at those particular airports? One of the statements that you had in your testimony that bothered me was the fact that they have outside people—not working for that carrier—doing the work, unlicensed mechanics in many cases who are doing the repairs, and licensed mechanics signing off that the repairs were in fact made. That troubles me. Can you tell us how widespread that practice is?

Ms. **Naismith**. I think you asked two questions. The approximate data we have on contracting—and I'd like to use this figure subject to correction; I'd like to recheck—is, I believe, about 10 percent of the maintenance load for the majors is under contract and about 40 percent of the maintenance load for what we call the "nationals," the smaller airlines.

Now, I think that for many years, probably, a lot of people who are not licensed mechanics have done repairs. It doesn't mean that they aren't perfectly competent people. It means that—this is a certifying requirement; that means the person who signs and bears the responsibility must be licensed. Perhaps people who testify later this morning can speak in more detail to mechanics and how that work is being carried out. It was just something that we noticed in looking through, and it particularly relates, as the Chairman pointed out, to these hub and spoke situations where there is lots of turnaround. And of course, there is a very strong pressure on the airlines to meet schedules; we all want them to be on time, too. So there are just a lot of conflicting pressures here in this environment.

Mr. **Molinari**. Have you run into any instances where you would question—or somebody has questioned—the competency of those who are doing the repair work, who are not licensed?

Ms. **Naismith**. No, sir.

Mr. MOLINARI. Turning to the fact that—toward the end of your testimony, on page 5, where you say, "the FAA has recognized some of these problems and has been forthright in discussions about them with OTA"—could you tell the subcommittee with whom those discussions were held? Who in OTA spoke to them, and what was said?

Ms. NAISMITH. We have had discussions with personnel at Oklahoma City and with people at the FAA here on recordkeeping and training issues. I would be happy to submit further details in writing on that. I have not personally participated and I am a little reluctant to begin to restate them. I perhaps might be inaccurate. But we'd be happy to give you that information. They have been very cooperative and forthcoming.

Mr. MOLINARI. Are you talking about Oklahoma City, now?

Ms. NAISMITH. And here.

Mr. MOLINARI. And here?

Ms. NAISMITH. And we've also met with regional offices.

Mr. MOLINARI. You wouldn't be able to identify any of the people here in Washington that you or your people have talked to?

Mr. DOPART. We have spoken to many of the people in Aviation Standards: Mr. Broderick, Mr. Kern and the people below him, and they've responded to pretty much all of our needs in the project.

Mr. MOLINARI. Now, you say, "responded." That's important to us.

Mr. DOPART. Yes.

Mr. MOLINARI. Responded in what fashion?

Mr. DOPART. Provided whatever information they have available, their personnel, arranged for us to meet the people in Oklahoma City——

Mr. MOLINARI. Well, now you're describing cooperation?

Mr. DOPART. Yes. Yes.

Mr. MOLINARI. Okay. The term, "responded," to me indicated that they were taking measures to correct some of the problems——

Mr. DOPART. Oh, I'm sorry. They responded to our questioning, whatever information we needed.

Mr. MOLINARI. I see.

Mr. DOPART. As far as any suggestions we had to offer, we are not in the process of making suggestions at this point.

Mr. MOLINARI. Okay. But you didn't get any feedback that they agreed with you about some of the practices that have been described in the statement, and that they were taking measures to deal with those problems?

Mr. DOPART. Along the lines of some of the issues that we raised with inspections, but those had been raised earlier by the GAO and others. They provided us with information about the process they now have underway to correct some of their inspection deficiencies.

Mr. MOLINARI. All right.

Just so I don't impose upon my colleagues here, I have one further question at this time.

In your ongoing inquiry—it's been about a year now that you've been working in this area—have you discussed the problems that you're studying with pilots and mechanics and aviation inspectors throughout the system?

Ms. **Naismith**. We have representatives on our advisory panel, representatives from ALPA, and other pilots have been involved in our workshops. We also had representative mechanics at a workshop. I don't recall that we have made any field trips to talk to inspectors, although we have a piece of research work underway under contract that is looking at inspection. We think we have a pretty good feel for pilots and mechanics; perhaps not in the detail that we might offer to you, but we try very hard in OTA studies to cast a broad net and to speak to everyone that is involved in these complicated situations. And as I mentioned earlier, we are now in the process of conducting some very detailed interviews and analysis with airlines specifically on maintenance practices, on what is occurring. We hope through that mechanism to give you some more complete information.

Mr. **Molinari**. Okay. The reason I raised that is because my office has been flooded with complaints for some time now about practices that I consider downright unsafe, where pilots have been forced to fly planes where they have raised questions about serious safety factors, and if they don't take the planes up their job is in jeopardy. If they take them up, they face the possibility of losing their licenses. We've had the same thing with many mechanics. In some cases, depending on the carrier we're talking about, FAA is quick to respond that they are management-labor problems, and blame it on those issues.

I think maybe I should close by suggesting that perhaps we can share with you some of the information and documentation that we have received which I think you might want to take a look at. It bothers me very deeply and concerns me, and I think it should concern all of us.

But I thank you for your testimony. I think it's of very solid substance.

Ms. **Naismith**. Thank you.

Mr. **Molinari**. Thank you, Mr. Chairman.

Mr. **Oberstar**. The gentleman from Georgia, Mr. Rowland.

Mr. **Rowland**. Thank you, Mr. Chairman.

On page 2 of your testimony you refer to contractors that the airlines have to rely upon. You say that "the companies providing maintenance do not have primary responsibility in the case of an accident or the violation of safety standards so they may not have the motivation to do the highest quality of work." Do you, or will you, make any recommendations concerning changes in these contracts so that more responsibility for liability will lie with the contractors?

Ms. **Naismith**. I do not know that we would be in a position to comment on the nature of the contract. I hope that we will be in a position to comment on actual practice within the contractual relationship, and whether or not there is any observable change in the quality or level of maintenance and whether or not it is responsive.

I am not legally trained; I would not know if the liability could be transferred contractually.

Mr. **Rowland**. It means at this point, then, that the contractor just is absolved of liability in the case of an accident. Is that the way it——

Ms. Naismith. It means that the primary liability for any accident still rests with the major carrier.

Mr. Rowland. With the airlines?

Ms. Naismith. Yes, sir.

Mr. Dopart. I believe that the Federal Air Regulations state that the operator of the aircraft is ultimately responsible, so the airline that owns and is using the aircraft is responsible. It doesn't matter who performed the maintenance.

Mr. Rowland. It seems to me that that certainly could pose a problem for the airlines in relying on contractors, then.

Ms. Naismith. That's why we're looking at it. We would like to know if it does pose a problem.

Mr. Rowland. Let me ask you this. I'm not sure I understood exactly what you said earlier. You were talking about the hub and spoke concept, and I missed exactly what you said but I thought maybe you said it is impossible to comply with some of the requirements in the hub and spoke manner insofar as maintenance is concerned. Did I misunderstand you?

Ms. Naismith. Yes, sir, I must have misstated my point. I did not mean to imply that it was impossible to meet requirements. I meant to say that given the number of airplanes, the number of spokes and the level of activity, it is not possible—and when we say that, I guess it really means that no one can afford—to supply the number of mechanics at all terminals that would be necessary for an airline to provide the kind of on-site maintenance and repair that they have historically been able to provide in the more linear systems, where the airplane could go to a base where there was a large supply of parts and a large supply of trained personnel.

Mr. Rowland. That means that the mechanics are spread thin, then.

Do you see any way to correct that situation and maintain the hub and spoke system that we now have?

Mr. Dopart. Well, one aspect the airlines have come to—and that's where contract maintenance comes into play in a small part—is that an airline will contract with another to provide some of the line services at an outlying spoke. So it is agreement among the carriers to provide joint maintenance.

Ms. Naismith. I don't want to suggest that contracting is inherently bad. It may simply be a trading of two airlines—"I do it at your terminal and you do it at my terminal, and we're both responsible." It probably works fine and it is probably very efficient. But it is a change in the practices and it's a change in the management control, and we would just like to know a little more about that.

Mr. Rowland. Let me ask you one other question about recordkeeping. On page 4, when you are speaking about the WPMS, you say "it is being prepared at headquarters and gradually implemented in the regional and field offices; it now provides centralized storage of inspection records in the mainframe computer at Oklahoma City. However, the field offices do not have easy access to the records that they have provided to this centralized data base."

Do you have any idea as to why there wasn't some initial thought given to having a connection between those systems so that this problem wouldn't arise?

Mr. DOPART. Yes. It's a relatively long story. I'll cut it short, but consider that pretty much until 1983, there were no records. In 1984 there were the NATI inspections where there was a year of consistent data, and then they introduced the preliminary WPMS system which really didn't work well until 1986. So effectively, there are no airline inspection records kept by the FAA up until 1986 on a stored basis.

In introducing the WPMS, some of the hardware out in the field offices was not compatible with the other equipment, so they put the system they had into place as a temporary. It was better than nothing, and they're in the process of connecting everything and making it work.

Mr. ROWLAND. I see that by 1990 you say that it's going to——

Mr. DOPART. I believe the Department of Transportation is planning a whole department-wide equipment purchase, and this will be part of it. They need to get bigger personal computers or microcomputers at the regions.

Mr. ROWLAND. Is it just because they needed more experience, or do you suppose lack of money had something to do with it? I see you're shaking your head.

Mr. DOPART. I'm not really sure if it was lack of money but part of it is being done in a fragmented approach. One part of the FAA would buy the equipment; another part would design the specifications, or require those; and they didn't necessarily work as well together as could have happened.

Mr. ROWLAND. Thank you very much for your testimony.

Thank you, Mr. Chairman.

Mr. OBERSTAR. The Chair recognizes the gentleman from Pennsylvania. We are glad to have him with us. We are glad that you eventually made it here safely.

Mr. CLINGER. Thank you very much, Mr. Chairman. I apologize for not having been here to hear the testimony of our witnesses but I was in fact delayed because of maintenance problems. [Laughter.]

Mr. OBERSTAR. As I said, symptomatic of the hearings and indicative of the need for them.

Mr. CLINGER. Just a couple of questions because I was not able to be here for all of your testimony.

When talking about contracting out, I understand there are two types; one, where a major carrier contracts with another major carrier because they have facilities wherever the maintenance is being conducted, but also in instances where the contracting out is with a foreign supplier or with others who are unaffiliated. Is that a very large part of the contracting out situation?

Ms. NAISMITH. We don't know yet. We hope to know shortly.

Mr. CLINGER. Very good.

One of the things we've done recently in response to consumer concerns is to mandate a ranking of airlines according to their delays. If they have fewer delays they get a higher score and therefore, presumably, more business. Would it be possible at some point in time to have some sort of a universal or standard maintenance criteria by which we could judge airlines, and that this could become a part of information provided to consumers on their levels of maintenance?

Mr. DOPART. Speaking to the safety indicators or the system indicators in general, there are a few things. We believe that the best source of this type of information about maintenance practices and some airline management practices would come from FAA inspection records or some other form of data collection by FAA personnel. At present we have never seen any of that information in any form, so we don't know how to speak to that.

But another point to bring up is that a lot of these safety indicators, if we're using them to rank a given airline, could cause a negative effect. If you measure on-time performance, that gives an airline with less than ideal standards the impetus to fly in an unsafe situation—not necessarily to fly on time, but to take off with a maintenance problem—so you have to be careful about which indicators you use to rank an airline. You need a very broad spectrum. At present we cannot even rank changes in the whole industry other than using accidents to measure safety. There really is nothing else available at this point that is objectively valid.

Ms. NAISMITH. If I might add, that is one reason that we have placed such emphasis on recordkeeping in this study. It is not to try to be small-minded. It is to try to say that if there were an adequate recordkeeping system, perhaps there would be other things that it would be beneficial for everyone to have information about and to look at, and it is certainly at least conceptually possible if there would be fair indicators in that system that could be used for many purposes, including by the public.

Mr. CLINGER. But that is not available now because there is not the recordkeeping that would enable you to make that kind of a judgment based on what you have.

Well, I guess the problem is that there really isn't any uniformity in terms of how one airline may go about maintaining a particular aircraft as compared with what another airline might do. They may have totally divergent programs for maintenance, may they not?

Ms. NAISMITH. Airlines devise maintenance programs which are accepted by the FAA, so there certainly can be variation in the way they approach them, particularly when you go to things like management practices, etc.

Mr. CLINGER. Okay.

Thank you very much, Mr. Chairman.

Mr. OBERSTAR. One question I'd like to follow up on. I've just been thinking over your response to my question earlier about the increased spending—or the amount of spending, I should say—on maintenance by the airlines. There are some airlines that have reported, and there are news releases and other public statements, that they have increased their spending on maintenance, and in some cases they will mix maintenance and engineering together—I'm not quite sure of the relationship between the two; I have an idea—but what is the basis there? Have you looked at whether the previous level of spending was adequate as a measure of judging whether the increase reflects the need rather than merely catching up to where they should have been?

Ms. NAISMITH. That's a complicated question. I don't know that I can answer it. Perhaps Mr. Dopart wants to take a crack at it. In some ways it's even more complicated than that because we're talking about how money is being spent and what the supervisory levels are, and many of these are questions of organization and how they show up in the company's accounting system, and when we try to measure them, we're trying to measure difficult things.

Kevin, do you want to speak to this? Or do you have anything useful to say?

Mr. DOPART. Just that we have looked at information since 1976, so it seems to be a fairly long period, I would think, in those intervening 12 years or so, that there was an acceptable level of maintenance. There has not been an increase in maintenance-related accidents over that period. I would think that a 10-year period would be a sufficient amount of time.

In looking at that, in front of me here I have some flight equipment maintenance costs plotted over those years for the 727–100 and the 727–200 where overall they either have held constant, on average, or have increased over the past few years. As these aircraft have aged it costs more to maintain them, and that's reflected in the records for the major airlines.

Mr. OBERSTAR. Do you divide those costs into parts and labor?

Mr. DOPART. We can. That is possible.

Mr. OBERSTAR. That would be very helpful. I think it would give us further insight into this issue and help us to understand better.

The Chair recognizes the gentleman from North Carolina.

Mr. LANCASTER. No questions, Mr. Chairman.

Mr. OBERSTAR. The gentleman from California, Mr. Mineta?

Mr. MINETA. Thank you very much, Mr. Chairman.

First of all, let me ask about Project SAFE. As I understand it, FAA has this Project SAFE to try and address this whole issue of some of the problems that you were alluding to in terms of inspector cadre, training, etc.

Is it your view that implementation of Project SAFE will make FAA inspection programs adequate? Or do you believe that the FAA is going to have to go beyond Project SAFE?

Mr. DOPART. In the little bit we've seen, we know that what's being done in Project SAFE is needed. We haven't gotten to the details of the program or evaluated whether work beyond that will be required other than work in the information segment, which is somewhat separate from Project SAFE, the WPMS and other recordkeeping. If that goes beyond Project SAFE, then yes, that area needs further work.

Mr. MINETA. Ms. Naismith, in terms of your statement, you said that "the FAA has recognized some of these problems and has been forthright in discussions about them with OTA. Unfortunately, the difficulties cannot be resolved soon."

Given the competitive pressures in the industry and the inadequacies that are apparent of the FAA inspection program, at least in the short term, do you have any suggestions on what should be done now or in the near future, until the FAA gets to the point of being able to put the fix in terms of the longer-run, bigger picture? Are you able to sort of separate out, make a distinction between some of those things that may be short-term? Do we need more money in terms of relocation costs for inspectors to be moved around? Is it a question of just maybe having the inspector force more flexible so that it's not a permanent change of station, but travel to take care of peaks in different places? Are the hubs now out of step with the regional structure of the FAA? Are there some of the structural issues that are shorter-term versus longer-term that maybe you might be able to address?

Ms. **Naismith**. Mr. Mineta, I would like very much to answer those questions but I'm afraid we are three or four months from that.

Mr. **Mineta**. Okay.

Ms. **Naismith**. We are looking at those questions.

Mr. **Mineta**. One of the things I've been looking at is this whole idea of how the airlines themselves are responding to today's environment and their commitment of resources. In a regulated environment, organizationally, many of the airlines—if not all—had a vice-president of safety. Today, in a deregulated environment, I don't see now a vice-president of safety. I see a vice-president of operations, and within that I may see "manager, office of safety," or I may see "vice-president, maintenance," and here I may see, "office of safety," but there is no one who is sort of independent in terms of—like an Inspector General whose sole responsibility—no line authority, but whose sole responsibility is that of safety.

I'm wondering whether or not you've taken a look at this from an airline perspective or looked at the airline perspective, and maybe whether or not we have to get into a regulatory mode of requiring giving some visibility to, maybe, an independent senior vice-president of safety or vice-president of safety; not under operations, not under maintenance, but someone who has that specific responsibility.

Ms. **Naismith**. We have been very interested in this issue. Several people who have worked with us who are experts in system safety questions have pointed out that a traditional point of inquiry is whether or not the safety function is centralized and is powerful, where the responsibility for safety within a corporation rests. It is considered by people who are expert in the field to be an indicator. I might just comment that we're doing a companion study on safety of motor carriers and trucking, and exactly the same question comes up: how primary is the safety responsibility and what status is accorded it by the company? It has implications not only for maintenance but for human factors and for overall operations that we think are crucial. This is one issue that we have raised with the airlines to which we have distributed the questionnaire and with which we are doing some survey work, to try to understand what these changes that you have pointed out in the industry structure have done to perceptions of safety and to actual safety. Some airlines have changed back as well, so there is some flux going on as the airlines try to define the most efficient and safe structure for responding to the new environment. We are looking at that in some detail. I think it's a very important question.

Mr. **Mineta**. Now, when you say "the new environment," is that as a result of the white glove inspection that occurred last year——

Ms. **Naismith**. No, sir, the deregulated environment.

Mr. **Mineta**. Did maybe the $9.8 million fine or the $1.6 million fine or $880,000 fine, the $1.2 million fine—did these have any kind of impact on the management of some of these outfits?

Ms. **Naismith**. I think it certainly got their attention, yes.

Mr. MINETA. I know in one case I don't think it had any effect at all because they're paying their fine on the basis of a dollar down and a dollar a month. I think the FAA really should not have made that kind of an easy settlement, so to speak, on a major issue.

On your survey that you referred to with the airlines, are you getting good cooperation from them?

Ms. NAISMITH. Yes, sir.

Mr. MINETA. You mentioned something about human factors and redundancy which sort of interested me. I'm wondering, is redundancy being taken out of the system? Newer state-of-the-art aircraft technology really has redundancy built in, and it's part of the design. I'm wondering, on the maintenance and operations side it may be that we're reducing redundancies. I'm just wondering whether—when you look at the cause of accidents, you find that in most instances it involves a human factor, a human mistake—and I'm wondering whether or not, as we reduce redundancy, there isn't a reduction in safety. We're transferring that redundancy and expecting that aircraft itself or the machine itself to do it, but the human side in terms of operations and the human side of maintenance may not be keeping pace. I'm just wondering whether or not you see that as a problem.

Ms. NAISMITH. We see the human factors issue as one of the largest questions that we're addressing in this study. I didn't speak to it earlier because this hearing is on maintenance, but the need for research agendas in human factors, the need for better incorporation of existing knowledge on human factors is absolutely critically important to maintaining safety in the industry.

Mr. MINETA. Did you look at the people who are coming on board as inspectors at the FAA in terms of their qualifications?

Mr. DOPART. We haven't looked at it in much detail but in our interviews with people at the regional office and at the headquarters we've heard some general information about that and about how it has changed. Whereas in the past they were getting former military pilots and some airline pilots who were furloughed, that's no longer the case. They are now getting a lot of students out of college with college degrees coming to work for the airlines with good technical backgrounds but without that operational experience. So these people especially require a training program to bring them up to speed to understand how the system works. That's probably the biggest change with respect to inspectors.

Mr. MINETA. How about the question that was raised about transferring people between general aviation and commercial aviation inspections? Is that occurring?

Mr. DOPART. Again, we don't have objective data on this but in talking to people in the regional offices, that was done, especially in the early 1980's when there was a lot of certification work that had to be done. That was where you could get the resources the quickest, was to transfer a Part 135 inspector to 121. And again, that person would need some upgrade in training.

Mr. MINETA. It seems to me that our inspection program is one where we're not looking over the shoulder of someone doing their maintenance work; all we're doing is following a paper trail. And I've always maintained that if it ain't on paper, then we assume that the work ain't been done. I remember when Mr. Borman came in to complain about the FAA pursuing a $9.8 million fine against Eastern Airlines. He said, "This is nothing but a paper chase." And I said to him at that time, "As far as I'm concerned, if it ain't on paper, the work ain't been done."

Do you feel that we are adequately on top of that? You know, in Watergate or in Iran-Contra, you follow the money. In maintenance you have to follow the paperwork. Are we adequately doing that in terms of our FAA inspector workforce?

Ms. NAISMITH. I'm sorry, I can't answer that question, Mr. Mineta.

Mr. MINETA. But is that not the key to whether or not we can——

Ms. NAISMITH. We are trying to understand that system better and how it is working.

Mr. DOPART. You see, unfortunately from our side, to understand that to a certain degree we would need to see FAA's airline records, and the FAA information is the missing link.

Mr. MINETA. Why is that?

Mr. DOPART. Some of the things that we discussed earlier, that up until the introduction of the WPMS there really had been no centralized records of FAA inspections. Some were kept at the regional offices. The GAO looked into that in detail in their report that came out in May, 1987. Now with the WPMS working somewhat and providing some information we would hope to see that in future years but at present, we at OTA have not seen any of that information.

Mr. MINETA. Very well. Thank you very much.

You say the field offices do not have access to the records?

Ms. NAISMITH. They can't easily retrieve the information they have put into the system. It essentially disappears to them once they send it to the mainframe.

Mr. MINETA. And is that being worked on?

Ms. NAISMITH. Yes, sir.

Mr. MINETA. Thank you very much for your fine work.

Thank you very much, Mr. Chairman.

Mr. OBERSTAR. The gentleman from Arkansas, the ranking member of the full committee. We are pleased to have him with us today. Thank you for being here.

Mr. HAMMERSCHMIDT. Thank you very much, Mr. Chairman.

Thank you, Ms. Naismith and your two colleagues, for your very comprehensive and fine testimony.

Mr. Mineta was asking you some questions and you said it is a little too early to respond to some of those because you haven't finished your study. In the so-called Passenger Protection Act that we just passed in the House, we put a provision in there for the DOT to do a study to see what would happen if we spread out the schedules at the spokes, so to speak; instead of having 36 minutes to change from a plane going into a connecting flight you might have an hour and a half, how much that would cost. We found out that when Piedmont did that it cost them about $120 million. They had to put on four new airplanes. Airlines, of course, resist this for a number of reasons, and that's so delicately timed and balanced in the entire national schedule that they say it's very difficult to do.

Nevertheless, we have asked DOT to look at it. I have also asked GAO to do a study on it.

I wonder, concurrently with their study, if you could tell us later on when you're doing your study as to how that might affect maintenance and take the pressure—if it has any effect on maintenance, if that idea of spreading out the schedule at the spokes would take a little pressure off of maintenance or if it would have some effect on maintenance as well as on the convenience for passengers. I can see where it could conceivably affect maintenance and the ability to respond to that. So if you would take that into consideration, I would appreciate it. If you want to comment on it at this time, please do.

Ms. NAISMITH. Thank you for raising that, and we are certainly trying to look at it. I would only comment that, as you point out, it is certainly correct that as you begin to affect schedules or try to spread them out, there are substantial economic impacts on airlines having to do with our desire to travel on time and computer reservations and other things. Any change does affect the economic standing of the airline.

Mr. HAMMERSCHMIDT. Well, I can see where a commuter-type flight, needing to get back to where the maintenance is, might be prone to do the least they can to be in compliance on a Minimum Equipment List item. For instance, they might fly without a generator or they might do certain things; if they had a little more time at the other end, maybe those things could be fixed. So we would appreciate your looking at it.

Ms. NAISMITH. Yes, sir.

Mr. HAMMERSCHMIDT. Fine.

Thank you, Mr. Chairman.

Mr. OBERSTAR. I thank the gentleman for his comments.

The Chair now recognizes the gentleman from Oregon, who is a member of the full committee. We are pleased to have you participating in our subcommittee hearings.

Mr. DEFAZIO. Thank you, Mr. Chairman. I'll pass at this time.

Mr. OBERSTAR. I have no further questions, Ms. Naismith, but I do want to compliment OTA on a very thorough, methodical, detailed, analytical and objective analysis. We hope that you continue this—let me correct that. We know that you will continue with this work in the same fashion and with the same attention to detail, and we look forward to cooperating fully with you as you proceed in this process. We hope that you will expand the inquiry into the areas raised by the gentleman from New York, Mr. Molinari, and some of the other questions that were raised here today.

One other thing, Ms. Naismith and your team. If, in the future conduct of this examination you could review the statistics on the various flights that have been cancelled with the reason given that there were mechanical difficulties; and at the same time, examine the area where the flights were delayed where the given reason was mechanical difficulties, I think that that area, if looked into, might enlighten us and shed some light on those who might be doing a good job and those who might be running a little short on what they should be doing. I think it could provide us with some positive information.

Ms. NAISMITH. We'll do the best we can.

Mr. OBERSTAR. Thank you again for your splendid presentation.

Our next witness is Captain Henry Duffy, President, Air Line Pilots Association, accompanied by Captain Donald McClure and Captain Mary Mitton.

Captain Duffy, we welcome your presentation this morning. We appreciate the very long, profound concern of the Air Line Pilots Association for safety in all of its manifestations, in each of the several and complex areas of airline operations, and the continuing surveillance the Air Line Pilots Association as an entity has maintained over all of the years of its operation. It has been of enormous service to the public and the airline industry, to the committees of Congress and to the FAA in its unique watchdog role. Those of you who pilot the aircraft have a very unique and special role to play in safety. I think the traveling public perhaps looks to that captain of the aircraft more than to any other person for safety and relies upon the judgment that the captain, the pilot and that flightdeck crew exercise in those critical areas of assuring a safe departure and arrival.

So we look forward with very special anticipation to your testimony, which I have already reviewed and which has some very important revelations. Please proceed.

TESTIMONY OF CAPT. HENRY DUFFY, PRESIDENT, AIR LINE PILOTS ASSOCIATION, ACCOMPANIED BY DONALD McCLURE, CAPTAIN, EASTERN AIR LINES AND MARY MITTON, CAPTAIN, COMAIR

Mr. DUFFY. Thank you, Mr. Chairman. On behalf of the 40,000 pilots that ALPA represents on 43 airlines, we appreciate this opportunity to discuss airline maintenance practices in general and specifically the role of flight-crew members in airline maintenance, the impact of airline scheduling practices on maintenance, and the frequency of deferred maintenance items.

It is our opinion that deregulation has had a significant impact on safety and especially the maintenance programs of many airline companies as they have tried to achieve acceptable profit margins while satisfying at least the minimum requirements of the Federal Aviation Regulations.

The American air transportation system has built up an enviable margin of safety over the years that is currently being eroded. That margin of safety was the difference between the minimum standards set by the FAA and the higher self-imposed standards of the airlines that were achieved through the cooperative efforts of pilots and management. Unfortunately, those higher standards have been lowered due to the competitive pressures of the marketplace, brought on by deregulation. This has led to a slow erosion of the safety margin that had been so painstakingly built up over the previous half century. In short, the safety net is coming unraveled.

Carriers do not have to break the rules to make cost-saving safety cuts. Though wilful violations by unscrupulous carriers do appear to be on the rise, that's only part of the problem. Rapid expansion within our industry has diluted the overall experience of the men and women who make the decisions that affect safety. These decisions, made at all levels from the Chief Executive Officer down, may be very well intentioned but not always in the best interest of safety. Cost-conscious managers shave a little here, a tad there, while the FAA offers its technically-correct but misleading assurances that most airlines are operating within legal limits.

What that means is that the big difference between the legal FAA minimums and the self-imposed higher standards agreed to by both the pilots and management has been narrowing because of the pressures of deregulation. Let me illustrate how a management with its eye on the bottom line can legally cut the high safety standards that once were common practice in the industry.

Each type of aircraft has a Minimum Equipment List, an MEL, authorized by the FAA. Aircraft can be legally flown with certain items inoperative. The FAA dictates that repairs of MEL items must be made promptly, and that a plane with an inoperative MEL item cannot depart an airport where repairs or replacements can be made. For example, it is legal for a plane to have one inoperative generator but it's not necessarily safe, depending on the weather, the time of day, and the proximity of alternate airports. Yet I always notice that company spokesmen, when defending their actions to the media, always fall back on the truthful but less than honest claim that their operations meet the legal minimums. We never hear them talk about the maximum.

To get around both the letter and the spirit of this directive, some airlines have reduced their spare parts inventory and mechanic workforce, thereby reducing the number of airports where repairs or replacements can be made. This has the effect of allowing management to keep planes flying with known deficiencies until it is time for the scheduled maintenance of those airplanes.

This bending of the rules is not confined to one or two airlines, though some abuse the system more than most. Airlines are quick to play follow the leader when they see a competitor gaining an advantage. Unscrupulous manipulation of the rules can have grim consequences, as found in an Air Illinois accident in October, 1983. A Hawker-Siddley aircraft scheduled from Springfield to Carbondale, Illinois suffered a generator loss after takeoff. While dealing with the problem, the crew eventually lost all electrical power during darkness and subsequently crashed while descending toward Carbondale.

Among other questionable maintenance practices, the Safety Board's investigation also found that company captains did not always enter mechanical irregularities into the flight logbook as required by regulation and company procedures. According to those company procedures, any maintenance discrepancy entered must be cleared by maintenance before further flight, or maintenance must determine whether the airplane could be flown with the defect, thus moving the discrepancy to the deferred list. Since any discrepancy entered could either ground or delay the aircraft, the Safety Board concluded that write-ups were held back to avoid those issues. They did find that items not entered were often corrected anyway but not entered for history as also required by the regulations. Therefore, captains were often prevented from completing their comprehensive inspection of the aircraft maintenance historical log because the log was incomplete.

Liberal interpretation of the rules flourishes as some companies justify continuous deferrals of repair on Minimum Equipment List items. ALPA received copies of company bulletins to pilots that were designed to help those pilots make decisions affecting the MEL. In effect, the bulletins told pilots that three requirements must be met before a failed system or component need be repaired or replaced.

First, a replacement part must be available. Second, a qualified mechanic must be available. And third, the time allotted for the repair or replacement must not interfere with the flight schedule. Furthermore, these bulletins went on to say that the airline—not the captain—was in the best position to make that determination, and that the captain should not attempt to make that decision. The bulletins, if followed, would summarily usurp the captain's authority, a situation certainly not agreed to by the Air Line Pilots Association nor by most authorities in the FAA.

Needless to say, instances such as these are brought to the FAA's attention when they occur and are usually corrected with considerable effort. But the deregulated environment which spawns such interpretation continues and competitive pressure prompts occasionally-misdirected resourcefulness.

A system operating under the type of guidance highlighted in the bulletins could operate airplanes well beyond safe limits simply by manipulating any one of the three conditions mentioned. Schedules through hubs are necessarily tight. Mechanics are usually busy. Parts bins can easily be in short supply. It is not surprising, therefore, that in a recent survey of our members we found that pilots throughout the industry reported an increased number of items carried on the inoperative equipment list under the MEL concept. Fully 50 percent of the pilots responding noticed a decline in the maintenance or the airworthiness of the aircraft that they were flying. Approximately 50 percent said that the captains were sometimes pressured into accepting aircraft with an excessive number of deferred maintenance items. The same percent also said that repairs for inoperative equipment were being deferred for excessive lengths of time even though the planes passed through maintenance bases where repairs were legally mandated to be made.

The pilot survey also confirmed that the number of full service maintenance bases has declined in the past two years.

Under deregulation, exposure to risk for passengers and crew has increased dramatically as airlines scurry to find a competitive edge to keep them in the black. It is an exposure that appears to have no remedy in the current state of affairs since the FAA, mandated to carry out inspections and to enforce standards, has been stretched too thin to deal effectively with the geometrical increase in flights, planes and airlines since 1978.

Established carriers have been put on the honor system with regard to safety standards. While the FAA concentrates on newer airlines with obvious problems, the honor of some of those carriers has occasionally become suspect as they jockey for an advantage.

In 1984 Secretary Dole instructed the FAA Administrator to conduct an in-depth review of the entire air carrier safety inspection program to determine whether or not the inspection workforce was being used as effectively as possible. That instruction came as a response to criticisms that the inspector workforce might not be sufficient for the workloads resulting from deregulation. The review was put together as a project, receiving the acronym SAFE for "Safety Activity Functional Evaluation." It included a forecast of activity under deregulation; the National Air Transportation Inspection, NATI; the General Aviation Safety Audit, and an evaluation of existing regulations, directives, programs, studies and reports concerning flight standards inspection programs.

Phase I, to update each part of the flight standards system, is scheduled for completion this year. Phase II will more accurately define and automate the system so that by fiscal year 1990 the system will continuously evaluate the environment, program management and industry safety status. It will identify the need to update staffing, training programs, regulations, policy, etc.

Generally speaking, Project SAFE has been a major step in response to the problems created by the unbridled growth of the industry since deregulation. Seeing the need for additional inspectors, better manuals, more comprehensive training and standardization, the FAA has taken steps to satisfy those needs.

We recommend that Project SAFE continue in the forefront of solutions offered to the problems spawned by deregulation. Project SAFE must be monitored and funded aggressively by the Congressional committees that are responsible for these tasks.

As aviation professionals, we can do far more than merely hope that serious safety problems will somehow be magically resolved. Past experience tells us that the solutions to the safety problems lie in all of us, who face these problems daily. We in the industry and all of you within the Government must insist that concern for safety be raised back to the level that it once enjoyed.

Thank you for the opportunity to make this presentation, Mr. Chairman.

Mr. OBERSTAR. Thank you very, very much, Captain Duffy, for that review of the condition of maintenance in the airline industry. When I summarize the highlights of your presentation and find statements like the following, I'm not just concerned, I'm virtually alarmed: "FAA is stretched too thin to deal effectively with maintenance problems." "The safety net is coming unraveled." "Technically correct but misleading assurances that airlines are operating within legal limits." Those kinds of assurances shouldn't be given if they're just technically correct. "Legal minimums and self-imposed higher standards of pilots and management"—there's a conflict right there. I mean, we're talking about legal minimums but the much higher previously adhered-to standards of operation by the airlines and by pilots. "Company spokesmen who talk about legal minimums but say nothing about maximums," where we ought to be operating, not if we're just doing the bare minimum. "Management that keeps planes flying with known deficiencies until scheduled maintenance for that aircraft." "Stretching maintenance to its limits"—we saw an example of that in Galaxy Airlines two years ago, that was flying with a rented propeller, the time of which was to expire the day after the accident.

The Air Illinois incident that you referred to parallels, just a couple of years later, the Galaxy Airline problem in which the pilots were dealing with the problem while they were in the air.

Something else went wrong, and the aircraft crashed. The NTSB, in the incident of Galaxy Airlines, said that the crew was trouble-shooting. All three of them were trouble-shooting a maintenance problem, as it turned out later, and the plane crashed.

"Company bulletins that say the airline, and not the pilot, is in the best position to say whether failed components or systems need to be repaired or replaced." Not only are the companies taking that position with respect to the pilots, but we also find they're saying that about the mechanics. Don't put such an item in the log. Don't ground that aircraft; management will make the determination. Well, if management is going to do all those things, sooner or later we're going to have really big problems. There's got to be a level of trust between management and its personnel. There are some airlines that have achieved that level of trust, and there are some others where it is badly in need of reestablishment.

I want to come to this matter of the narrowing of standards. As I understand your testimony, at one time the airlines adhered to higher and self-imposed standards of maintenance, standards that were agreed to and that were understood by both management and employees. Could you describe that for us a little more fully? Is this an explicit, written agreement? Or is this something that was just sort of understood, sort of a gentlemen's agreement? Or, seeing Captain Mitton there, a gentlewoman's agreement? [Laughter.]

Mr. DUFFY. Mr. Chairman, there has always been an honor system in the industry. The FAA has always recognized that it would be impossible to have enough inspectors to completely cover the industry. It worked very well before deregulation, although the problems were not there on the airlines to the degree that they are now. And I want to say quite clearly that one of the problems in describing the level of maintenance in the industry is that it is uneven across the industry. We have some airlines that do an excellent, fine job, have a very enthusiastic safety ethic that they work under, but we have others that are just the opposite.

One of the reasons that I asked Captain McClure and Captain Mitton to come along—Captain McClure is a pilot for Eastern Airlines, and Captain Mitton is a pilot for Comair, one of the regional and smaller carriers, and is more familiar with the level of maintenance that exists in that level of the industry. I think they can give some very accurate pictures of the unevenness that takes place out there and the narrowing of the margins of safety.

Mr. OBERSTAR. Could we have just a brief comment first from Captain Mitton about that matter?

Ms. MITTON. Yes, sir. I bring a line pilot's perspective to you personally from Comair and from my colleagues at other regional airlines.

My company, I'm proud to be able to tell you, does a fairly good job, and I'm not here to tell horror stories. However, some companies push their pilots to take aircraft which are not airworthy, which have open write-ups—that is, I wish to call them pocket notes—as you know, if a system malfunctions we are obliged to write that system up on the aircraft in-flight log. Some airlines encourage their pilots to carry those write-ups on pocket notes, to be turned in at the end of the day or whenever the aircraft is due to spend an overnight at its home maintenance base. Needless to say, the flying public now has an unknown airplane in which it rides; the captain's long-term health may be in danger, and the airline's certificate in danger as well.

My airline is not one of those. We have had pilots disciplined for carrying pocket notes. There are some captains who refuse to write up aircraft for several reasons. They refuse to write up an airplane because—at my airline if the flight is canceled due to mechanical, the pilot will not be paid. We have others who think they are doing the company a favor by not writing up the aircraft. Then on the other hand we have pilots who are very particular about the aircraft they accept and they will write up all infractions and, more often than not, sit on the ground a very long time.

I have a number of reports to bring you, if you desire, about discipline being given pilots when they have written up an aircraft as being unworthy. It borders from cajoling—that is, "Surely, good old boy, you'll take this aircraft and fly it," to downright threats and time off without pay. We have a wide range of stories for you.

Mr. **Oberstar**. I think that describes the situation very well and I appreciate your comments very much.

Captain McClure, would you also have a relatively brief analysis of the same issue?

Mr. **McClure**. Yes, sir, Mr. Chairman. On my particular airline I am sure, as you well know, there have been times in the past when Eastern was referred to as the "pilot's airline" and we would still like to think it is that. However, recently we have seen an interesting change in the attitudes of management with regard to flightcrew members when they might feel it necessary to insist that some maintenance be done on their aircraft to either assure its airworthiness or make sure that it is safe before its departure. And it usually manifests itself in the form that, first of all, the maintenance department will dispatch someone to the aircraft to advise the captain that either no parts are available or that they don't have the qualified maintenance personnel—for instance, an avionics specialist to take care of a radio navigation problem or a radar problem—in hopes that the captain will say, "All right, go ahead and put it on a deferred item" or "Leave it on the deferred item" and continue on. And if the captain were inclined to resist this and say, "Well, that's not good enough; I choose to have this problem resolved here," the next thing that will happen is that you will be requested to go inside and contact the chief dispatcher, who will refer you to sections of the manual that say that the company maintains the right to decide when and where they will fix the airplane. And then if you tell them, "Well, that's fine and I understand that, but nonetheless I want it fixed," you will be told to contact the chief pilot by telephone where he may, in one form or another, either threaten you or attempt to coerce you to take the aircraft with such things as, "Well, you know, this delay is going to be chalked up against you, the flightcrew, and that speaks adversely for the flight operations department." Or, "If you don't take the airplane, we'll put you on the ground," that sort of intimidation.

Mr. **Oberstar**. Those are very distinct and clear, not-so-subtle pressures on a pilot, are they not, to operate an aircraft?

Mr. **McClure**. They are very plain and clear, Mr. Chairman. As a matter of fact, for the first 22 or 20-so years of my 23 years of flying with Eastern Airlines, I can't recall a time either as a first officer witnessing a captain refuse an aircraft, or I as a captain refusing it, that I was ever questioned. That is an authority that we have that is granted by the Federal regulations. We're the final word for the safe conduct of the flight. We guard that authority very carefully, and I think you'll find that most captains use it very judiciously. It is contrary to what we're used to seeing in that we're being pressured to do this; however, it goes back—as I am sure that Captain Duffy and I will well remember—into the early days of aviation, before we had the ability to control our destiny a little bit, so to speak, that pilots were continually pushed in the formative days of commercial aviation. All you have to do is go back and read some of the history of the air mail days and the early DC-3 days.

Mr. **Oberstar**. Those are the days in which those margins of safety were built into the system, where redundancy was introduced to assure that there were several levels and layers of safety in the system, and they are now being pared away in favor of increased efficiency and improved profitability of operations? Is that what you're suggesting?

Mr. **McClure**. Yes, sir, I think that's a very adequate description. We learned some tragic lessons in the early days of aviation about not having redundancy in our various systems on the airplane. With the cooperative efforts of such folks as the pilots' associations, the FAA, the manufacturers, the airlines and the safety organizations of this country, we've been very fortunate to build up a world-enviable record of airline safety.

The concern we have right now is that we see a symptom, if you will, whereby this margin of safety is little by little being eroded or cut away, down to the bare minimum.

Mr. **Oberstar**. Who has the final say on whether an aircraft will be flown when there is a question of inoperative or problem equipment? The pilot? The flight dispatcher? The chief dispatcher? The chief pilot? Who has that final say?

Mr. **Duffy**. Mr. Chairman, all three of us would tell you in unison that the captain does. And as Captain McClure indicated, that's a responsibility and an authority that we guard very judiciously. That, however, does not speak to the pushing, the leaning on a captain that is possible by a management that has its focus on the bottom line instead of on safety. Unfortunately, those things are creeping back into the industry.

The fact that we can fly the airplane with some of the redundancies inoperative—theoretically we can fly the airplane safely—leads management to want to get that airplane underway with the revenue passengers on board. We as pilots know that every time we do that, you can just about count on the system—the primary system—probably going bad when you need the redundancy. Once again, the manufacturers have given some marvelous pieces of equipment to work with; we like all the redundancy in place and functioning because we know that inevitably things will go wrong, and when things go wrong we want all the safety systems working.

Mr. **Oberstar**. I think anyone who has flown has had the experience of sitting on board the aircraft when the pilot says, "We have a problem. We can fly the aircraft without this switch or this little indicator light not functioning, but we'd feel a lot better if we had it fixed." Such comments tend to generate, in the traveling public, a great deal of confidence in the captain. And I daresay if you took a survey of the traveling public, they'd say they trust the pilots a whole more than they would trust the management because they are the ones that are sharing the experience with the passengers. They know that captain has his or her life on the line just as the passenger has, so they're going to trust that person up front.

What about those who charge that ALPA is using safety as a scare tactic? We hear that accusation, and we're hearing comments that ALPA is using this issue just to slow down aircraft, that the pilots don't want to fly as intensively and with the frequency that the airline wants them to do.

Mr. DUFFY. I could give you a very strong speech about ALPA's role in developing the safety of this industry over the last 55 years but I think the proof comes in the fact that the airlines that have the good safety ethics—you don't see ALPA complaining about them. As I told you in the beginning of this, it's very uneven across the industry and we only point the finger at the shoddy operators. But we are not going to back away in the face of charges like that from pointing that finger because we think it is an unhealthy practice; it is unsafe for the traveling public, and it's part of our responsibility to focus on inadequate maintenance practices when they exist. And as you suggest, we have ourselves strapped in that seat right along with the traveling public.

Mr. OBERSTAR. Captain McClure, would you respond to that matter with respect to your company, Eastern?

Mr. MCCLURE. Yes, sir, I'd be glad to. I have heard that comment myself a number of times. I have been involved in some dialogues, whether they be with gentlemen of your stature or other parties, including the FAA and NTSB, over the past few years regarding that very subject.

I make one interesting note of this. I concur completely with what Captain Duffy says, that they may point the finger at us but we're not going to duck that.

It is interesting that every time people say, "Well, you tell us this horror story and it turns into a scare tactic, and you're going to drive the public away from your airline and this will economically wreck us," if my memory serves me correctly, I think maybe yesterday some results came out about the September numbers on load factors and this sort of thing for the airlines. And if I'm not mistaken, I believe Eastern's load factor is at or better than it was for the same period of time last year.

The intent, obviously, is not to drive people away from the airline. Maybe they've gotten the message—I would hope; I've been asked this a number of times—"Don't you feel this drives people away from your airline?" And my answer is, absolutely not because they can bet one thing on Eastern Airlines, and that is if that airplane isn't safe to fly, these captains are not going to fly that airplane.

Mr. OBERSTAR. Clearly, nothing will drive people away from an airline faster than unsafe aircraft and unsafe flying conditions, unsafe practices. I don't understand how the argument holds up that pilots are engaged in scare tactics. Why would Eastern pilots want to drive passengers away from Eastern Air Lines, which is their employer, and therefore their source of income?

Mr. **McClure**. Mr. Chairman, I can assure you that we don't want to do that. What we want to do—and unfortunately have been unable to do so far—is to convince the management of our corporation that we would appreciate having our aircraft maintained to the status that they were before the degradation of the maintenance that took place at our air carrier over the past three or four years.

Mr. **Oberstar**. This is not a hearing on Eastern Airlines. It is a hearing on maintenance across the board. Eastern has chosen, with some activities that are going to take place soon, to make it an issue. On their own operations, they'll have an opportunity to respond. We've given them an opportunity to appear before this subcommittee and they'll have their statement.

But it is of concern to me that the unique relationship between management and employees rests on trust. They have hired you for your judgment as much as for your experience. If they don't trust your judgment and that relationship of trust breaks down, then how long before management takes unto itself all the judgment questions and pushes mechanics and pilots out, and your judgment is no longer operative? And then we get into a really serious problem of safety.

There are airlines where that problem does not exist, where there is an extraordinary level of trust between management and the pilots and the mechanics. But somewhere along the line that has broken down in the case of Eastern, it appears to me.

Mr. **Duffy**. Well, as Captain McClure said, for 23 years they never second-guessed a captain over there. When a new management system came in it suddenly started, and I think it's quite clear where the blame belongs.

Mr. **Oberstar**. I want my colleagues to have an opportunity to question. I am trying to limit this to 10 minutes apiece so we can have several rounds of questions.

One last question. Could the three of you give examples of inoperative equipment that would impact safety? And types of such equipment that may be deferred for excessive lengths of time?

Ms. **Mitton**. Yes, sir. I fly a turboprop aircraft, and the engine bleed air is used for anti-icing and also sent to the air environment system. I received an airplane one day that had the bleed air leak detector on the number one engine inoperative. Now, the engine air bleed worked fine. The anti-ice systems from that bleed would work fine, as well as the air conditioning system. However, the safety detection system—the leak detector—was inoperative.

Because it was inoperative, one obviously could not use the bleed air system on the number one engine because if you had a bleed air leak, how would you know? Perhaps the wing would melt and fall off, but short of that one had no safety detection system.

So when I received the airplane I was informed that it was okay to use the bleed air system on the number one engine because the system worked fine. I took it as a joke, and I said, "Well, then, surely you will come with me to the FAA and explain to them why I should keep my certificate for using a system which I cannot use?"

Well, to make the story a little more piquey, we had to operate outside of icing conditions because we could not use the anti-ice systems, which meant a very long and bumpy ride at low altitudes. And further, on closer examination, something that we would not normally look for, we found that the ambient air scoop was not in the extended position. So the passengers in the back were more uncomfortable than they had needed to be because we did not have proper airflow to the aircraft.

Sir, this condition had existed for nine days. Nine days.

Mr. OBERSTAR. That's shocking.

Ms. MITTON. Well, shocking to you, very frustrating to us. And that's one simple example. There are many, and I have other airlines, other stories which I could provide to you.

Mr. OBERSTAR. I've flown an aircraft and watched ice build up on wings. Not a very pleasant prospect. There are two former colleagues of ours in the Congress who may well have fallen victim to excessive ice on wings who are no longer in this body.

Captain McClure, what examples would you cite of equipment that impacts safety, the repair of which is deferred for excessive lengths of time?

Mr. MCCLURE. Mr. Chairman, on the 6th of September I was flying the air shuttle, which I'm sure a number of you gentlemen have had occasion to use, between here and New York. I picked up an airplane which had what was called the "altitude alerting system" inoperative. This is a device that's installed in the cockpit; it's required by a specific Federal regulation to be there, and its purpose is to advise the flight crew when they are approaching an assigned altitude. Additionally, it will also advise them if they inadvertently were to leave that assigned altitude. The obvious intent of this is, in a redundant way, to assist us in preventing midair collisions by providing the appropriate altitude separation that air traffic control wants to have in the system.

I noticed in the logbook that this system on the airplane had been inoperative since the 22nd of August. This was now the 6th of September. I refused to fly the airplane. I went through the next step that I described earlier and was told to contact the chief dispatcher, which I did. He read me the page out of the operations manual that said "maintenance will decide when we're going to fix this," and I said, "Well, I don't think that's quite adequate in this case because in addition to being mandated into the cockpit by an FAR, this particular instrument has an FAR—not just the MEL—but there is a specific section of that FAR that says, "this airplane shall not depart a station where repairs or replacement can be made."

Now, that airplane had been operating for 15 days between Washington, New York and Boston, all maintenance bases on the Eastern system, and I said that it was my considered opinion that this airplane should not be flown until that device was fixed. Well, they towed the airplane off to the hangar and we got another one and off we went.

Four days later, on September 10th, another one of our captains, Captain Knudson, picked up the same aircraft. He also refused to fly it; the altitude alerting system still had not been repaired. At that point the chief pilot for the Washington base came over and sent Captain Knudson home and told him that he would fly the airplane. Captain Knudson was put on the ground, I believe, for three days. He did not suffer any monetary loss as the company continued to pay him for this but I'm sure I don't have to go into a lengthy description, that that is obviously a form of subtle intimidation, at least.

I talked with our director and chief pilot for the northern region, oh, maybe about a week after this happened and I said, "Interesting, you didn't put me on the ground for turning that airplane down. Why did you put Captain Knudson on the ground?" And he said, "The day you didn't want to fly with it inoperative the weather was bad, and the day Captain Knudson didn't want to fly it, the weather was good." And I said, "What difference does it make whether the weather is good or bad if all I want to do is maintain my altitude to keep from hitting another airplane? It would be going so fast I couldn't see it anyway."

The concept or the philosophy behind grounding Captain Knudson is beyond me. It escapes me.

Mr. OBERSTAR. Did you pursue that matter with the FAA and report this incident?

Mr. MCCLURE. Yes, sir, I have. I have sent a letter to Mr. McArtor.

Mr. OBERSTAR. And what response have you had, if any?

Mr. MCCLURE. It's in the process of being addressed by the FAA, as I understand it.

Mr. OBERSTAR. I understand that another captain refused to fly an aircraft with an inoperable altitude alerting system and Eastern sent that captain a telex saying that operation of an aircraft with an inoperative altitude alerting system is not in violation of Federal Air Regulations?

Mr. MCCLURE. Yes, sir. I believe that was Captain Stradley.

Mr. OBERSTAR. Well, if it is not in violation of Federal Air Regulations to fly an aircraft with an inoperable altitude alerting system, why wouldn't you fly it and why wouldn't Captain Knudson fly it?

Mr. MCCLURE. I think you will find, as I said, that there is a Federal regulation that requires that system to be maintained. I don't think at the time that the gentleman who signed that telex was aware of the FAR that says that the airplane may not depart a station where repairs can be made.

By the way, the reason that Eastern gave for not repairing that airplane for roughly an 18- or 19-day period was that they had no parts, that it was on order from the vendor.

There additionally, sir, is a specific FAR that requires a Part 121 air carrier to maintain an adequate stockpile of parts to fix their aircraft in a timely fashion.

Mr. OBERSTAR. I won't pursue the matter further. I will read into the record at this point from 14 CFR Chapter 1, Subsection 91.51, entitled "Altitude Alerting System or Device, Turbojet Powered Civil Airplanes: (a) Except as provided in paragraph (d) of this section, no person may operate a turbojet-powered U.S.-registered civil airplane unless that airplane is equipped with an approved altitude alerting system or device that is in operable condition and that meets the requirements of (b) of this section." It goes on to describe what an altitude alerting system should do.

I think that's sufficient. The Chair will withhold further questions and apologize to the members for taking so long.

I recognize the gentleman from New York, Mr. Molinari.

Mr. MOLINARI. Thank you, Mr. Chairman.

It's ironic that while we were at the hearing here today we received notice of the fact that a military fighter crashed this morning one mile short of Indianapolis Airport. Apparently there was a pilot only on board, but the plane crashed into a hotel. And apparently, from the sketchy information so far, the plane is actually wedged in the lobby of that hotel. There are supposedly numerous injuries. It may not have anything whatsoever to do with what we're talking about here today but certainly I think it underscores the concern that we all have about the safety of the system.

One of the things that I guess is confusing to us, and maybe to the public, is the conflicting stories that we receive from various carriers, pilots that work at various carriers, some who would maintain that their carriers are not observing safe regulations. In your statement—your pages are not numbered—but Mr. Duffy, you made reference to copies of company bulletins to pilots that were designed to help those pilots make decisions affecting the MEL. Would you identify the company or companies? Is that more than one company?

Mr. DUFFY. I'm sorry to say that those bulletins came from five or six airlines at about the same time, the most egregious being Flying Tiger.

Mr. MOLINARI. You said they came about the same time. Is it your suspicion that there was some interrelationship, some communication between these?

Mr. DUFFY. It wasn't clear. We took them to the FAA as a pattern that was developing. As I say, even the good carriers, when they see someone starting to get a competitive advantage, have to look themselves over and reexamine their own procedures. And in these cases we think the procedures would be going in the wrong direction.

I'm pleased to say that the FAA took some pretty aggressive action in reversing those bulletins, but that is the kind of thing that creeps out there in this deregulated environment.

Mr. MOLINARI. So this has now been reversed and the problem has been resolved so that, in effect, the pilot does have the last say again?

Mr. DUFFY. Mr. Molinari, once again, I think the companies learned you don't put in writing. So now they are doing more subtle pilot-pushing.

Mr. MOLINARI. So the practice hasn't discontinued. It discontinued in writing but it goes on through verbal communications, admonishments, etc.?

Mr. DUFFY. On some airlines, once again.

Mr. MOLINARI. On some airlines.

We got a notice that today—I guess maybe at this time—Eastern Airlines is holding a press conference in another part of this building to answer some of the questions that were raised last week at another hearing. The question that would come to my mind, based on what we've heard today, when you look back to the past couple of years and these unprecedented fines that have occurred—Eastern Air Lines, Captain McClure, was fined, I think, a record $9.5 million. I think American was fined something like $1.5 million, and Pan Am—I don't recall the amount of its fine. But in any event, they were substantial fines; in fact, recently there was another carrier that was fined.

Could you tell me from your experience, and maybe the other members of the panel, what reaction there has been to these historic fines? Has Eastern Air Lines, because of the size of that fine—and incidentally, our subcommittee recently increased those fines tenfold, from $1,000 per violation to $10,000 per violation; it's an amendment that I carried in response to this problem—but I think it would be important to us to find out from you people, if you have the information, what response occurred on the part of Eastern Air Lines and, if you do know, American Airlines and Pan Am, what they have done following the fines.

Mr. McClure. Well, I think I can address somewhat specifically Eastern, and probably a little bit specifically on American, to answer your question, sir.

If I'm not mistaken, I think the timetable would be somewhere in the middle of 1985 that those fines were levied. At that time I was part of an Air Line Pilots Association committee working with the flight operations department at Eastern Air Lines with basically a twofold job. The first one was to assist in improving our operations in South America, and the second one was to work with the flight ops department and the maintenance department with what the pilots felt were an excessive number of Minimum Equipment List items being carried on a daily basis at our airline.

Unfortunately, it has been my impression—not only through my daily flying of the aircraft for Eastern over our system, but in looking at some of the numbers—that Eastern didn't take a whole lot of corrective action as a by-product of the imposition of that $9.5 million fine. To illustrate that a little bit, I think it would be fair to say that maybe up until the last week or two, Eastern has carried somewhere in the area of 300 to 350 Minimum Equipment List deferred items on a daily basis on our entire fleet of about 270 airplanes.

I know for a fact, having had a copy of it, the MEL list for August 23rd, 1986, there were 426 open MEL items. I hope that what I hear, that Eastern has in fact gotten that number down considerably in the last week or two—I'm delighted. And I hope that they have been able to take steps to start to rectify this problem.

As far as American Airlines goes, I have with me, which I will be delighted to submit to the committee, a copy of an article from Aviation Week and Space Technology, June 29th, 1987, whereby American Airlines committed, apparently, an additional $225 million to upgrade its maintenance operations. To sum it up very quickly—it's about a three-page article—they were not at all satisfied with the number of open MEL's they were carrying or with the number of personnel they had or with the maintenance bases and their facilities and capabilities, so they dedicated this money and they reduced their open MEL's down here, I believe, to—it says, "American has also reduced sharply the number of Minimum Equipment List items, items that will not ground an aircraft if appropriate additional precautions are taken, from one per aircraft at the beginning of 1986 to .33 per aircraft." This would have been in June, 1987. They have a fleet of roughly 340 airplanes, I believe; that's about 70 more than Eastern does. So take .33 times that, you're looking at something on the order of 100 to 120 MEL items, and daily we've been carrying maybe 300, almost three times as much.

I'm sorry, sir, but I cannot comment on Pan American. I have no knowledge of their status or their maintenance operations.

Mr. MOLINARI. Just to try to quantify that a little further then, if I may, your fleet is about 270 planes at Eastern?

Mr. MCCLURE. As I understand it presently, yes, sir.

Mr. MOLINARI. All right. And American has about 340?

Mr. MCCLURE. Yes, sir.

Mr. MOLINARI. And the actual comparison figures per plane—I think you said it was three times as much?

Mr. MCCLURE. Just a little bit less than that. If you looked at American Airlines on a daily basis, they might have 120 open MEL items on a fleet of 340 airplanes. If you looked at Eastern on a daily basis in August, as I said, the 23rd was a particularly bad day. If I'm not mistaken, it's a Friday; it's the end of the week—pardon me, I beg your pardon. It's a Monday, or I think it was. That's bad because all the items have collected over the weekend. But we have been running an average of 300 to 350 daily, as I say, up until what I understand is the last two weeks, and the numbers have started to drop down, hopefully into the 200's.

Mr. MOLINARI. I don't know. It seems to me, looking at my mathematics, and I'm not very good at it, that the incidence might be four or five times as great by comparison; that is, Eastern versus American Airlines. Since you have 270 planes and you're running 300 to 350, as high as 426, you're talking about 1.2, 1.3, 1.4 as opposed .3.

Mr. MCCLURE. Yes, sir. Well, I was trying to be conservative.

Mr. MOLINARI. Well, I appreciate that. But that's rather significant information.

Tell me, one of the things that has concerned me—now, you talked about Eastern and you gave us some hope that maybe in the past couple of weeks there is some movement?

Mr. MCCLURE. I don't have proof of that, but I have—some of the folks that I deal with on a daily basis through our safety net at Eastern with the pilots have indicated to me that the daily average number of MEL's is starting to work its way down.

Mr. MOLINARI. How do you counter the argument, Captain Duffy and Captain Mitton, that we hear so often, "Look, we're carriers and we're in the business to make money. We're not going to fly planes that are unsafe. If a plane crashes, that's going to affect us financially to a disastrous degree. Therefore these charges that we are out there flying planes that are unsafe—for our own selfish interests, we're not going to allow that to happen.

Mr. DUFFY. Mr. Molinari, I think the problem is the people that are responsible in many areas are not aviation people. I mean, they are responsible to get that airplane out and get it launched, and they're judged by how many airplanes they get out or how many don't stay at the gate. One of the things that has come with deregulation is a whole new group of people coming into the industry, many of them financially oriented rather than aviation oriented, and some of them quite honestly make their decisions unknowledgeably. We do consider it our responsibility to stand up against that because aviation is our business.

Mr. **Molinari**. Okay.

This may be a very simple question; I'm sure it is. How has this ten years' deregulation, to today, affected the role of the pilot? What does the pilot find himself or herself doing today as opposed to what it was before 1978? Is there any change in the steps and procedures that you take today that you wouldn't have taken then? How has it affected your daily lives, operating those aircraft?

Mr. **Duffy**. Well, it's a harsher business than it was. A lot of the grace and the glamor has gone out of the business. A lot of the pressures now that are being exerted on our cockpit crews simply didn't exist ten years ago. And I don't just mean in the areas that we're talking about here, the maintenance, but the aircraft control pressures. It's a lot faster world out there for the pilot to operate in right now. I think for that reason—plus add to that the management pressures that exist at some airlines. I think it's the reason we're seeing more early retirements. Experienced pilots are leaving the business when we need experienced pilots just because the profession isn't as rewarding as it used to be.

Mr. **Molinari**. Do you find that happening more with some carriers as opposed to others?

Mr. **Duffy**. You know, you can tie it to Eastern. We are losing one a day over on Eastern. It happened on TWA right after the hostile takeover. We had a big upward skew in the number of early retirements. As I say, when the job stops being rewarding and the pilot has the option of early retirement, he gets out.

Mr. **Molinari**. Tell me this. Is it difficult for a pilot who has left the company to find employment with another carrier? Captain Mitton? I see you shaking your head "no."

Ms. **Mitton**. No, it's quite easy. As a regional carrier we turn over 25, 35, sometimes 40 percent of our pilot force every year. Every year. So from our perspective, it's a rather easy thing to do.

Mr. **Molinari**. How do you account for such a high figure of turnover?

Ms. **Mitton**. We're underpaid.

Mr. **Molinari**. So it's mainly pilots seeking to——

Ms. **Mitton**. A pilot, sir, from my airline might make a thousand—let me sanitize that—for a regional airline might hang around and work the first several years for $1,000 a month, perhaps even $2,000 a month. And yet if he chose a major airline and were hired, after his probationary period he would be making $48,000, $60,000 and upwards a year.

Now, I'm an old dog. I'm not going to move. I like the kind of job I have. But were I younger, I would not be at the regional level.

Mr. **Molinari**. Okay. So basically it's a question of people seeking to earn more money?

Ms. **Mitton**. Absolutely. It's financial security.

Mr. **Molinari**. Okay.

Ms. Mitton. Absolutely.

Mr. Molinari. In another area, how about those who are discharged? We have cases—particularly Eastern, I guess, and Northwest—where there are lots of complaints about pilots being discharged, and it's their contention that they would have been forced to fly planes that were unsafe, and they were discharged. Would they experience difficulty in finding employment with another carrier?

Mr. Duffy. If the discharge stuck, I think that it would be very difficult. One of the—and this is going to be a speech on unionism, I guess—but one of the advantages of having union representation is that there is a grievance procedure that eventually goes before a neutral arbitrator. So we know that if a pilot stands up and he knows that we're going to back him, that he's going to get a fair and equitable hearing. That simply does not exist in the non-represented carriers. So when that management fires him, he's gone.

Mr. Molinari. I know I'm exceeding my time, Mr. Chairman.

Tell me about Eastern. Is Eastern still pursuing a union contract with you folks? There's some gray area there, as I understand it, and there's a question. I think you had a judicial decision not so long ago shedding some light on it.

Mr. McClure. There presently is a contract in force at Eastern Airlines. It was signed and agreed to by both the pilots and the company the evening that the company was sold. There was some contention of this on the part of the company. It was adjudicated in a court of law which upheld that, in fact, the contract is in effect. Even since the time of the takeover by the new management we have been operating basically under that contract. We've been paid the wages that are set forth. We've been given the vacation days, the retirement benefits, the whole gamut of all of the contingencies that are in that contract.

I really don't see that we have a labor-management problem right now. Our contract doesn't even come up for reamendment or negotiation until well on into next year.

Mr. Molinari. What would happen if the contract expired and you don't get a new contract? Could pilots like yourself who have refused to take up a plane that you feel isn't safe find yourself subjected at that point to disciplinary action?

Mr. McClure. I'm certain that that would happen.

Mr. Molinari. Just one last question. Are you aware of an Eastern landing gear problem involving an L–1011 on June 15, 1986? This was one where a pilot had observed this problem with the retractable landing gear, had refused to take the plane up. Over the course of several days that condition persisted. Other pilots took the plane up, had the same problem. The plane was taken out of service. They apparently did an overhaul of some type on that system. They test-flew the plane, as I understand it, and found it to be okay. Subsequently, another pilot took the plane out on a flight and had the same problem.

During this time, I understand that the original pilot who raised the point had been terminated. Do you have any information about that?

Mr. McClure. I can address the specific incident and the airplane, yes, sir.

One of my duties with the Air Line Pilots Association is that I'm the chief accident investigator for the pilots on Eastern Airlines. Apparently, to summarize very quickly, basically what you said was that this airplane had taken off; the pilots couldn't retract the gear. They wanted to come back and land and they couldn't dump fuel because there was lightning around, severe weather. They had to make an overweight landing. So down the airplane goes. They've got to inspect it for overweight landing to try to fix the landing gear, and they launch the airplane again. The second time up they still can't retract the landing gear. This time the weather has improved so they go ahead and dump the fuel and come back, and the airplane was taken off to the hangar for extensive maintenance.

Subsequent to that they had to run what was called a "local acceptance flight," if my memory serves me correctly, and that's where we have a test crew take the airplane up and actually try and fully test and operate the system that's in question. They still found the same problem and the airplane was put back in the hangar and they virtually had to rebuild the landing gear system on the airplane.

Additionally to that, when you bring up the L-1011 it brings to mind that—I don't know whether you know it or not, but we had an accident with one of our airplanes in Panama City, Panama back in the latter part of August or the first part of September where the crew landed the airplane, touched it down, and the gear collapsed right out from under it. There was a fatigue crack in the main attach fitting for the retract cylinder that apparently had gone unnoticed for some period of time. Fortunately, the airplane had a deferred maintenance item, thrust reverser, and it just happened to be the thrust reverser on the side that the gear collapsed on. Had it been the other one, the airplane probably would have been out in the mud and we might have had a fire.

Mr. OBERSTAR. If the gentleman would yield, when was that aircraft inspected?

Mr. MCCLURE. The one with the collapsed landing gear, sir?

Mr. OBERSTAR. Yes.

Mr. MCCLURE. It had a major overhaul check, a "C" check, if I'm not mistaken, in about February of this year. At that point I believe—and I don't have all the documentation yet because the NTSB is still in the process of collecting some of it and doing some metallurgical examination—but subsequent to that time there was an airworthiness directive complied with about a bushing that goes in here where this retract cylinder attaches. That's the area right in which the fatigue crack occurred, and it ultimately failed. It failed rather violently; the crack proceeded circumferentially all the way around the outside of the main gear barrel.

Mr. MOLINARI. Thank you, Mr. Chairman. I've probably done my time. I thank you for your courtesy and patience.

Mr. OBERSTAR. The gentleman's time has expired.

The Chair recognizes the gentleman from California, Mr. Mineta.

Mr. MINETA. Thank you very much, Mr. Chairman.

Captain Duffy, thank you very much, and Captain McClure and Captain Mitton.

First of all, let me ask Captain Mitton, you've been with Comair how long?

Ms. MITTON. I've been with them for eight years.

Mr. MINETA. So it's really after deregulation, so you don't know what maintenance was for a 135 carrier——

Ms. MITTON. No.

Mr. MINETA [continuing]. Prior to deregulation and what it is now?

Ms. MITTON. No.

Mr. MINETA. When we wrote deregulation we beefed up the Part 135 maintenance requirements and made them near 121, but I won't go into that part of it.

Captain McClure, I'm disappointed in the sense that recently the blue cards have sort of dropped off to me. I've had a number of blue cards from a lot of captains at Eastern Air Lines. But let me ask, how long have you been with Eastern Air Lines?

Mr. MCCLURE. Since February of 1964, sir.

Mr. MINETA. Then you saw a change after 1978 when we had deregulation in terms of operating standards at Eastern Air Lines, or did not?

Mr. MCCLURE. I think that the momentum of the pre-deregulation era kind of carried through the first couple of years of deregulation. And then little by little by little, things started to deteriorate. And I think I would have to say—and this is if my memory serves me correctly—that probably in the 1983 to 1984 era was when the flightcrew members on Eastern first started to notice that the number of deferred maintenance items started to increase, that they were on the books for a longer period of time, that we started to see more of the "reason behind not fixing the aircraft" was that we didn't have the parts or the manpower. And it slowly deteriorated, probably to its worst point, I would say, in late 1985 or early 1986.

Mr. MINETA. And since acquisition by Texas Air Corporation, how would you characterize what you have seen as it relates to maintenance?

Mr. MCCLURE. I would say that it virtually has not changed at all with the exception of one thing, and that is that prior to the acquisition by Texas Air Corporation the pilots were not coerced or attempted to be coerced into taking aircraft that they felt that they did not want to fly.

Mr. MINETA. And that is the case now?

Mr. MCCLURE. Yes, sir, it is.

Mr. MINETA. And how is that subtle pressure—I take it it's subtle pressure, or is it just, "You're going to take the aircraft out"?

Mr. MCCLURE. Well, they try subtly first by sending the maintenance man out to say, "Look, we don't have any parts and we want to get this airplane out of here." And then, of course, if you dig your heels in a little bit further and say no, then they dig their heels in a little bit further and say, "Well, you've got to talk to the chief dispatcher." And then he starts to quote company-imposed interpretations of the MEL, which is this one where "we'll decide where we're going to fix the aircraft, not you," and then if you don't acquiesce to his pressure then you're going to have to talk to your chief pilot. And of course, I guess it's kind of a silly thing to say, but maybe some people would say that talking to the chief pilot is a form of discipline. I don't have any problem with talking to the chief pilots, but everybody responds to pressure in a different way. And every time you go out to pick up an airplane if you notice that the maintenance generally on the fleet is deteriorating, and you say, "Here's another beauty; what do I do with this thing?" And then again you're on the phone talking to the chief pilot and everybody's trying to get you to go, and of course the passengers are upset and they're not happy. And they're really the ones that get short-changed in all of this.

Mr. MINETA. Let me ask about the MEL items. First of all, I'm not sure in my own mind as to who determines MEL items. Is it determined by airline manufacturers? Who determines what an MEL item will be?

Mr. McCLURE. The industry, when a new airplane is certificated such as the 757 or the 767, which are new aircraft, the Flight Operations Evaluation Board gets together. That's made up of FAA, manufacturers, airline pilots, the airlines, this whole group of people who all work in the industry. They get together and they take a look at all of the various and sundry components of the aircraft—the electrical system and its generators, the hydraulic system and its pumps and its valves and whatever—and they develop, with the approval of the FAA, a Master Minimum Equipment List.

Now, when an airline buys that airplane, they can use the Master Minimum Equipment List to govern or guide their operations with regard to maintenance, or they can develop their own Minimum Equipment List. But their own Minimum Equipment List can only be more restrictive than the Master Minimum Equipment List. It may not be less restrictive.

Does that address your question, sir?

Mr. MINETA. It does.

If I were Brand X Airline and I have two APU's instead of one APU, then my MEL is going to be different than, say, yours where you only have one APU on board?

Mr. McCLURE. Yes, sir, that's correct. And of course you as Brand X Airlines would want to address that difference with the Master Minimum Equipment List, certainly.

Mr. MINETA. Now, as an example, is an N-2 indicator an MEL item? If an N-2 indicator is inoperative, is that an MEL? Would you be able to leave with an N-2 indicator not working?

Mr. McCLURE. We're going to have to look at the specific airplane, but I would suspect that probably what the MEL would say——

Mr. MINETA. Let's say a 727—well, a 727 uses EPR, right?

Mr. McCLURE. Well, no, we have EPR's——

Mr. MINETA. That's N-1, N-2?

Mr. McCLURE [continuing]. N-1, N-2, on the fuel flow.

You probably can go with an N-2 gauge inoperative but there are going to be some qualifying restrictions in the Minimum Equipment List. What it will say is that you have to determine, first of all, that the N-2 section of the aircraft engine is in fact rotating, okay? You can do this by looking at engine-driven hydraulic pumps which are driven off the N-2 section which would indicate that it is rotating freely as the pressure rises.

It will probably also say that every other engine indicating gauge for that particular engine, meaning EPR, N-1, EGT, fuel flow, oil pressure, oil temperature, etc., will all have to be operative. Once again, this is a little bit of a guess on my part because I don't have the particular MEL in front of me, but I think you would see something generally like that.

Mr. DUFFY. Mr. Mineta, let me just add to that.

Mr. MINETA. Surely.

Mr. DUFFY. What Captain McClure just went through is a good indication of how operating with an MEL deferred item puts an extra burden on the crew. Each one of those things is a new procedure that you have to read from the Minimum Equipment List book that tells you what extra things you have to do while operating with that piece of equipment inoperative. Multiply that by some five, six, maybe ten deferred maintenance items, each one requiring an additional procedure, and I think you will see that you have started to load the crew up with things that they should not be doing.

Mr. MCCLURE. Mr. Mineta, excuse me. I might add one thing along those lines. Just in addition to that, this now is going to change the entire procedure for starting your aircraft because we use N-2 indication to initiate and complete the start cycle on the engine. If N-2 is operative then we have to, like I said, determine first of all that the section of the engine is running and it's the tachometer that's broken, and then we have to go to a different start procedure using N-1.

So that's an interesting question that you asked because it's a very important gauge, as you can see.

Mr. MINETA. Now, if you looked at a logbook and you saw that there's a falsified entry in the logbook, what's your duty as a captain?

Mr. MCCLURE. Which side of the log? A falsified entry that was made in the complaints section or in the sign-off section?

Mr. MINETA. Well, let's say on the sign-off section. That would be more critical. Let's say that you know that there is in fact an MEL item that has not been corrected. Let's say even that the airplane has been overnight at a major base where parts and mechanics ostensibly would be present, and yet some mechanic has signed something off as being okay. What is your duty as the captain if you see something that you know to be a false entry in the logbook?

Mr. MCCLURE. I don't know that I've ever encountered that personally, sir. But I think if I were able to determine by reviewing the logbook, and then in my pre-flight check of the aircraft ascertain that a system or component had been improperly signed off, that airplane isn't going to move until somebody comes out and can prove to me that whatever has been said is operating that I find is not operating is, in fact, fixed.

Mr. MINETA. Well, I take it from one of the cards—I'm reading from one of the cards——

Mr. MCCLURE. Okay.

Mr. MINETA. Here's another one: "Aircraft outflow valve was put on CI without knowing position of valve. Aircraft flight manual PNP specifies different restrictions for different positions. Aircraft flown one leg illegally by prior crew."

Mr. McClure. That doesn't surprise me. I had an interesting airplane just last month that was brought to me in Baltimore with the exact kind of a problem, an outflow valve that had been malfunctioning on the airplane. It had been changed four times. The aircraft had lost pressurization two previous times, including the day it was brought to me by the inbound crew, and all they wanted to do was change the outflow valve again, which they had done before. That wouldn't have rectified the problem. Ultimately, what was found by what I feel was a very sharp mechanic, he found a ground wire loose on the cabin pressure controller up in the cockpit. God knows how long that wire had been loose, and it was making an improper ground so every time the pressurization would work just fine until it lost the electrical circuit continuity, and then the outflow valve would open up.

Mr. Mineta. What is your responsibility as the pilot now coming onto this aircraft—well, this card says, "One leg illegally flown by prior crew"?

Mr. McClure. Well, my responsibility as far as the conduct of my flight is to ascertain that the airplane doesn't leave until it's safe or it's fixed. And with regards to the conduct of the previous crew?

Mr. Mineta. No, in terms of your own responsibilities. Suppose you say, "I'm not going to take this aircraft out." Would the dispatcher say, "I'm sorry, Captain McClure, but for flight positioning purposes we also have to have this airplane up at EWR tomorrow morning"?

Mr. McClure. They might well say that, but I still wouldn't take it.

Mr. Mineta. Okay.

Captain Duffy, you said that one of the things that's happening in order to get around the spirit and letter of the law with regard to MEL, that some companies I guess are reducing their parts inventory, and also the mechanic workforce?

Mr. Duffy. And taking that one step further, they have completely pulled maintenance out of some bases, some stations, so that if the MEL says that when you get to a maintenance station you have to have the item fixed, there simply is no maintenance at that station now so you can keep the airplane going to some further point, which means that the pilots have to operate the aircraft with the inoperative item. I mean, it's one of the things that came back to us as an overview of the industry in the poll that we took of our pilots. We had a sense of this, and they were telling us this over the telephone and through our safety network. We got back 18,000 of these surveys, and the surveys said that this is a pattern that has developed in the industry. It can't be anything other than economics.

Mr. Mineta. I know that we have a vote on, Mr. Chairman, so I'll suspend at this point but I intend to follow up on this whole issue of the MEL because my record is replete with the kinds of cards that I'm getting that are also going to Mr. Breeding as well as to Senator Ford and Mr. McArtor or Secretary Dole. So I will continue this on my own through our committee, in conjunction with the staff of this committee, as well as the Chairman and Mr. Molinari.

Again, I want to thank you for your testimony here.

Thank you very much, Mr. Chairman.

Mr. **Oberstar**. I thank the gentleman for raising that point. Those reports are an extremely useful and important part of this inquiry and indicate genuine concern on the part of pilots for safety.

When we resume, the Chair will recognize the gentleman from Pennsylvania. We will continue with this panel. We will have recorded votes in a series, and we should then also break for perhaps a sandwich and soup and resume at 2:30, since there will be some other intervening business of the House that we will have to take care of.

When we resume, though, I would like to ask you, Captain Duffy and Captain McClure, to identify for us where the incident occurred that Captain Stradley reported on, which we referred to earlier, and your own experience about the altitude alert system—what airport it occurred at and whether at that airport Eastern has the repair and replacement capability in order that we may determine whether the action was in consonance with or in violation of the FAR.

Mr. **Duffy**. We will do that, Mr. Chairman.

[Whereupon, at 1:10 p.m., the subcommittee recessed, to reconvene at 2:30 p.m. the same day.]

AFTERNOON SESSION—3:04 P.M.

Mr. **Oberstar**. The subcommittee will resume its sitting.

The Chair would like to explain to all those who have been waiting patiently that we had a series of recorded votes on the floor that prolonged our stay, and the Chair regrets that, but it is unavoidable. We will have to take a brief recess at 3:30 to conduct some business of the full Committee on Public Works and Transportation at the call of the Chair.

At the time of the break, I had raised the question for the panel about the incidents which were reported and discussed earlier in the testimony. What I wanted to know was, at which airport did Captain Stradley's incident occur, the incident which you reported in the altitude alerting system, and do those airports have Eastern repair or replacement capabilities?

Mr. **McClure**. Mr. Chairman, Captain Stradley's occurrence happened at La Guardia Airport in New York which, in fact, does have maintenance capabilities at Eastern. The one that I referred you to, the airplane that I was involved in with altitude alerting system inoperative occurred here at Washington's National Airport, also a maintenance base for Eastern.

Those aircraft that were involved are shuttle aircraft, and they fly predominantly between the three airports of Washington, New York, and Boston which are all Eastern maintenance bases.

Mr. **Oberstar**. Why couldn't the aircraft be held and the required maintenance done?

Mr. **McClure**. I was told when I picked the airplane up that this component had been inoperative for 15 days because there were no parts available. Apparently, the altitude alerting system on that particular airplane and nine others is different than the rest of them in our fleet, and they had no parts in stock. They were on order.

Mr. OBERSTAR. But is that a condition foreseen in the FAA regulations that would permit aircraft to be flown without the required replacement done?

Mr. MCCLURE. Not as I understand it. I am sure that someone who was specifically involved in the maintenance field could better address that, but the Federal regulation, sir, that you quoted—I believe it was 91.51, subparagraph (d)(2)—specifically addresses the fact that that airplane should not leave a maintenance base where repairs or replacement can be made.

Mr. OBERSTAR. There are seven conditions to which the requirement does not apply, and none of these, it seems to me, applies to your circumstance except the possibility of number 2, continuing flight as originally planned if the altitude alerting system or device becomes inoperative. No, this says after the airplane has taken off.

Mr. MCCLURE. Maybe I have misread that, sir, but I think the intent of that regulation is that the Government doesn't want those airplanes operated without an altitude alerting system working.

Mr. OBERSTAR. Unless somehow somebody can interpret that to mean continuing a flight as originally planned if the altitude alerting system or device becomes inoperative after the airplane has taken off, meaning taken off and it has several destinations and you can go from one to the next until you come to a repair or maintenance base.

However, if DCA or La Guardia are maintenance bases for Eastern, then it would seem to me that failure to correct the problem would be in violation of the FAR. It seems to me you would be fully justified in not flying that aircraft.

Mr. MCCLURE. Yes, sir.

Mr. OBERSTAR. I sure wouldn't want to be a passenger aboard an aircraft that didn't have such a device operational.

Mr. MCCLURE. If I could make one very quick comment, I think the intent of a Minimum Equipment List in total is, for instance, that if a component goes inoperative in an outlying station, such as Dubuque, Iowa, and the airplane goes from Dubuque to Des Moines to St. Louis, and the carrier has a maintenance facility in St. Louis, the object is not to penalize the carrier and make them fix that object in Dubuque or in Des Moines, but it can continue the flight or series of flights, i.e., Dubuque, Des Moines, St. Louis, but it shouldn't depart St. Louis which is where the repairs can be made. We have a maintenance facility there. It is to help the carrier get the aircraft to the maintenance base.

Mr. OBERSTAR. In such a circumstance, does the chief pilot or some higher authority override your decision and say "Fly the aircraft? I take it on my recognizance. I am the responsible person for this plane flying."

Does someone absolve you of responsibility or relieve you of responsibility?

Mr. MCCLURE. I wouldn't do that personally, but I know cases where pilots have asked us what to do, because the company wants them to fly the airplane. We have suggested that they request from the company a teletype authorizing and directing them to fly the aircraft and then go ahead and fly it so we don't have a big confrontation with the company and we will resolve the problem later.

Mr. **Oberstar**. Was that done in any number of cases? Can you cite or provide for the committee instances in which that procedure which you have just described takes place?

Mr. **McClure**. Yes, sir. In fact, Captain Stradley on that morning—and I have a copy of the telex directing him to fly the airplane saying it didn't violate the FAR's. There are also three other telexes I have directing three captains to fly the aircraft with either the flight data or the cockpit voice recorder inoperative through maintenance facilities.

I will be delighted to supply you with those.

Mr. **Oberstar**. Well, we would like to have that, and I ask unanimous consent to include that documentation at this point in the record.

[The material supplied by Mr. McClure follows:]

November 2, 1987

Honorable James Oberstar
Chairman
Investigations and Oversight Subcommittee
House Public Works and Transportation Committee
Room B-376
Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

In response to your request at the Subcommittee's hearing on October 20, I am submitting the attached material.

If you desire any further information, please let me know.

Sincerely,

D. H. McClure

Captain D. H. McClure

DHM:sk

AIR LINE PILOTS ASSOCIATION
1625 Massachusetts Avenue, N.W., Washington, D.C. 20036 (202) 797-4000
SCHEDULE WITH SAFETY AFFILIATED WITH AFL-CIO

EASTERN

LINE PILOT REPORT

(Irregularities, Suggestions and Safety Items)

14690102 OPR-680 REV. 8/85

CATEGORY (CHECK AS APPROPRIATE. EXPLAIN UNDER REMARKS)

☐ AIRCRAFT MECHANICAL ☐ DEPARTURE PAPERS ☐ UNSCHEDULED LANDINGS

☐ A.T.C. ☐ OTHER ☐ GROUND SERVICING

INCIDENT LOCATION	FLIGHT NUMBER	MO DA YR	AIRCRAFT NO.
LGA	1423	3/28/87	888

REMARKS/EXPLANATIONS

06:15 a.m. Check-in for Seq. 42, L-3 Shuttle Standby.

08:50 a.m. Assigned Flt. 1423, to DCA. A/C not assigned to crew until this time.

09:10 a.m. Dispatch Release received. Noted MEL Altitude Alert Warning Sys. inop. Requested to speak with Mtce. Foreman. Requested Altitude Alert Warning Sys. be repaired. Advised "No parts available this station".

Item on C.I. since previous day, which a/c had flown Flts. 1431, DCA-LGA; 1450 LGA-DCA; 1082, LGA-BOS; 1123, BOS-LGA; since being written-up on Flt. 1410/27, DCA-LGA. Logbook pages enclosed.

Requested clarification from Dispatch and Tech Service if a/c was legal for Dispatch. Neither would send written authorization that a/c was legal for take-off

Capt. Bert Beech called me in Operations and advised a/c was legal for Dispatch and he would send a message authorizing same. Received teletype approx. 10:30 a.m. Passengers had already been moved to 10:00 a.m. prime.

Part was located in BOS and was scheduled to be shipped to LGA for overnight repair. Assigned to fly same a/c to BOS at 11:50 a.m. Called Dispatch and requested a ferry flt. no. to position a/c for repairs in accordance with FAR 91.51 (3). Advised by Tech Service that part was now arriving LGA from BOS and a/c could fly empty with regular flt. no. as scheduled.

Part fixed Alt. Alert Wrng. Sys. Flew to Bos and D/H return.

PLEASE PRINT	NAME OF FLIGHT OFFICER Wayne Stradley	STATUS C	BASE LGA	Forward to your Director & Chief Pilot for processing. A copy of this report will be returned to you if reply is requested.
REPLY REQUESTED ☐ YES ☒ NO	SIGNATURE OF FLIGHT OFFICER Wayne Stradley	DATE 3/29/87		EMPLOYEE NUMBER 86219

Director & Chief Pilot — Prepare original and 4 copies. Forward original and 3 copies to Vice President Flying Operations - MIAFV	SIGNATURE OF DIRECTOR & CHIEF PILOT	DATE

USE REVERSE SIDE FOR REPLY

Capt. Jim Savage and Capt. Don McClure:

Some footnotes on the enclosed report.

Was shown letter from Capt. Bill Stephens and V.P. Upton stating that parts and manpower were reason a/c could not be repaired. Was advised by Capt. Beech that this letter was not correct. Tech Service and LGA Mtce. said it was still in effect. The people in the field do not know what the official position is.

Parts can be shipped to a/c out of service are in need of mtce. anywhere on the system. This used to be my job when I was a Stock Clerk. The a/c is labeled A.O.G. by System Control. meaning Aircraft on Ground. Most radio parts are "Sparc" items and are computer located throughout the system.. Therefore, I could ship parts from any station to any station on or off the system. Sometimes even using other carriers. All I needed to know was: what part needed to be where and when......

Also some airports have parts pool items that are stocked with various carriers as jointly agreed to by the various airlines that use that airport. Some factors deciding what airline was to stock which part were: 1) presence or frequency of flts. in that airport, 2) type and number of a /c, 727,etc. Even though a part may not be available in an Eastern stock room doesn't mean that part is not available at that airport. The airlines created this part pool back in the 60's to cut down on parts inventory, saving cost.

Thanks for your help on the 28th. I expect to be called in to Lloyd Griffith's office over this. So much for my contribution to Max. Safety. The FAA needs to get in on this today. The company is really stretching the FAR's and taking advantage of the pilots lack of knowledge of how the Eastern Mtce. and Supply Depts. work......

Sincerely,

Wayne

Wayne Stradley

QP LGAOS MIATE MIADS
.MIADDEA 281525/1D0118
FOR CAPT STRADLEY FLYING SHUTTLE STANDBY A/C 888
THIS TO ADVISE YOU THAT A/C 888 MEL ITEM 34-10-08
ALTITUDE ALERTING SYS INOP, IS LEAGAL TO LEAVE LGA,
AND IN NO WAY VIOLATES ANY FAR.
AIRCRAFT IS SKED TO BE FIXED TONIGHT.
THIS FROM DIRECTOR FLIGHT TRAINING
CAPT B.E. BEACH

CHIEF DISPATCHER TAYLOR

28MAR1525 0040 LNZ

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QP LGAWWEA
.MIAXWEA 28/1358
FDP
1423/28 FLIGHT DEPARTURE PAPERS
                                        .09TD came off            487-7660
********** DISPATCH RELEASE ****************
                                                                      wdx
 CLR
 1423/28 P888
                         DISPATCH RELEASE
 ORG DST RT IAA  MFUL BO    FL  M&A  I&H  R   C   FCODE   EFU  P
 LGA DCA 1  PHL  230  73    16  53   43   61  0   E1      0
 1357 GREG ANSON                 PH 873-6071
 FM: 0     TO: NO ROUTING   M05 A0   F0   E4   D0
 REMARKS:

 FUEL 24,000 REV ETE ----------    CAPT MINIMUM
                                   WS
 RELEASE ACCEPTED (CAPT SIGN)-------------------------------------


********** AIRCRAFT MEL *********************

  MEL/CDL VERBIAGE BELOW IS CONDENSED, REFER TO MANUAL TO CLARIFY
     P888
  27-30-02  M46266    LEFT ELEV POS IND INOP
    ELEVATOR POSITION INDIC  1  0 (*)  MAY BE INOP.
     P888
  22-10-81  M51235    AUTOPILOT INOP IN "A" MODE, SEE M46266
    AUTOPILOT SYSTEM   1 - 0   MAY BE INOP PVDD LNDG MINS ARE
    NOT DEPENDENT UPON ITS USE. ANY MODE WHICH FUNCTIONS NORMAL
    MAY BE USED.
     P888
  34-10-08  M57088    ALTITUDE ALERTING SYSTEM INOP
    ALTITUDE ALERTING SYS  1/0  IN THE EVENT OF MALFUNCTION
    OR FAILURE ACFT MAY CONTINUE FLT OR SERIES OF FLTS. BUT
    BUT SHALL NOT DEPT ARPT WHERE REPAIRS OR REPLACEMENT CAN
    BE MADE.
     P888
  28-40-03  M56596    #3 WING STA. FUEL QTY GAUGE NEEDS CALB.
    REFUELING PANEL QTY IND (WING STA): 3/0 (*MOD) ONE OR ALL MAY
    BE INOP PROV: 1. AN ALTN METHOD OF DETERMINING THE FUEL QTY FOR
    THE AFFECTED TANK IS USED. - INSTALL "INOP" PLACARD(S) ON INOP
    IND(S).
     P888
  33-20-02  M57037    FASTEN SEAT BELT LITE INOP AT 21D-31A
    PSGR NOTICE SYS(NO SMOKING/FASTEN SEAT BELT SIGNS)  1  -
  NO PSGR OR CABIN ATTNDT SEAT MAY BE OCCPD FROM WHICH NOSMK/
  FASTN BELT SIGN IS NOT OPTV AND SEAT BLKD; OR SEAT MAY BE OCCPD
  IF CABIN P/A IS OPTV AND CLRLY HEARD, P/A USED TO ALERT CRW
  AND PSGRS WHEN BELT TO BE FASTNED OR NO SMKNG. A/C MAY NOT
  DPT STA WHERE REPAIRS OR RPLCMNT CAN BE MADE.
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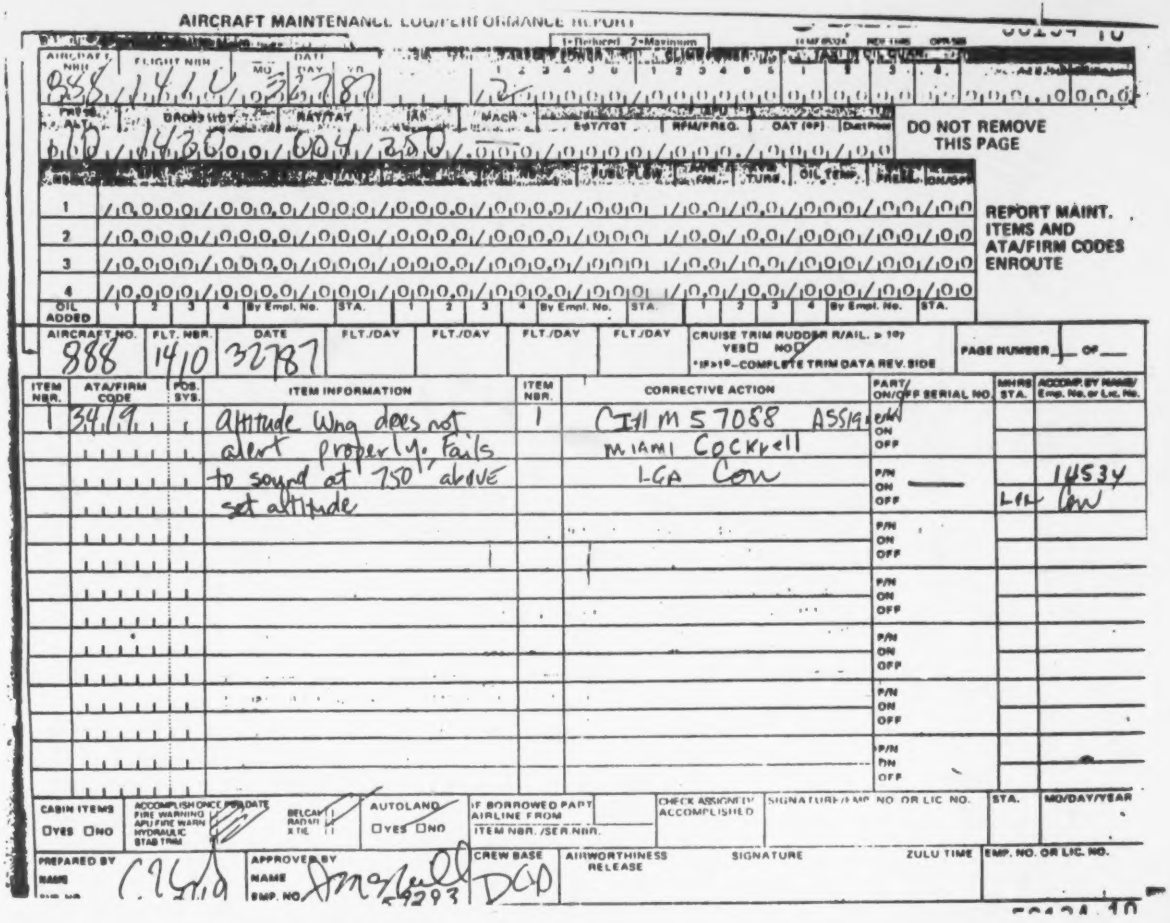

AIRCRAFT MAINTENANCE LOG/PERFORMANCE REPORT

1=Reduced 2=Maximum

DO NOT REMOVE THIS PAGE

AIRCRAFT NBR	FLIGHT NBR	MO	DAY	YR
888	1410	3	27	87

PRES. ALT.	GROSS WGT.	RAT/TAT	IAS	MACH
10	1430	004	250	—

APU: EGT/TGT · RPM/FREQ. · OAT (°F) · Duct Press

							FUEL FLOW	FAN	TURB.	OIL TEMP.	PRESS.	ON/OFF
1	/0.000	/000.0	/000	/000.0	/000.0	/000	/0.0	/0.0	/000	/0.0	/00	
2	/0.000	/000.0	/000	/000.0	/000.0	/000	/0.0	/0.0	/000	/0.0	/00	
3	/0.000	/000.0	/000	/000.0	/000.0	/000	/0.0	/0.0	/000	/0.0	/00	
4	/0.000	/000.0	/000	/000.0	/000.0	/000	/0.0	/0.0	/000	/0.0	/00	

REPORT MAINT. ITEMS AND ATA/FIRM CODES ENROUTE

OIL ADDED	1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.

AIRCRAFT NO.	FLT. NBR.	DATE	FLT./DAY	FLT./DAY	FLT./DAY	FLT./DAY	CRUISE TRIM RUDDER R/AIL. > 1°? YES☐ NO☑ *IF>1°–COMPLETE TRIM DATA REV. SIDE	PAGE NUMBER 1 OF ___
888	1410	32787						

ITEM NBR.	ATA/FIRM CODE	POS. SYS.	ITEM INFORMATION	ITEM NBR.	CORRECTIVE ACTION	PART/ON/OFF SERIAL NO.	MHRS STA.	ACCOMP. BY NAME/Emp. No. or Lic. No.
1	3419		altitude Wng does not	1	CIH M 57088 ASSIGNED	P/N		
			alert properly. Fails		MIAMI Cockrell	ON OFF		
			to sound at 750' above		LGA Cow	P/N ON —		14534
			set altitude			OFF	LGA	Cow
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		

CABIN ITEMS ☐YES ☐NO

ACCOMPLISH ONCE PER DATE: FIRE WARNING, APU FIRE WARN, HYDRAULIC, STAB TRIM

BELCAP, RADAR, XTIE

AUTOLAND ☐YES ☐NO

IF BORROWED PART AIRLINE FROM / ITEM NBR. /SER. NBR.

CHECK ASSIGNED/ACCOMPLISHED · SIGNATURE/EMP. NO. OR LIC. NO. · STA. · MO/DAY/YEAR

PREPARED BY NAME EMP. NO. C. 22110

APPROVED BY NAME EMP. NO. 59293

CREW BASE DCA

AIRWORTHINESS RELEASE · SIGNATURE · ZULU TIME · EMP. NO. OR LIC. NO.

graph (a) of this section) of maximum number of occupants to number of exits greater than 14:1, and for each airplane that does not have at least one full-size door-type exit in the side of the fuselage in the rear part of the cabin, the first additional exit must be a floor-level exit that complies with paragraph (b)(1) of this section and must be located in the rear part of the cabin on the opposite side of the fuselage from the main entrance door. However, no person may operate an airplane under this section carrying more than 115 occupants unless there is such an exit on each side of the fuselage in the rear part of the cabin.

(c) No person may eliminate any approved exit except in accordance with the following:

(1) The previously authorized maximum number of occupants must be reduced by the same number of additional occupants authorized for that exit under this section.

(2) Exits must be eliminated in accordance with the following priority schedule: First, non-over-wing window exits; second, over-wing-window exits; third, floor-level exits located in the forward part of the cabin; fourth, floor-level exits located in the rear of the cabin.

(3) At least one exit must be retained on each side of the fuselage regardless of the number of occupants.

(4) No person may remove any exit that would result in a ratio of maximum number of occupants to approved exits greater than 14:1.

(d) This section does not relieve any person operating under Part 121 of this chapter from complying with § 121.291 of this chapter.

[Amdt. 91-22, 30 FR 8516, July 3, 1965]

§ 91.49 Aural speed warning device.

No person may operate a transport category airplane in air commerce unless that airplane is equipped with an aural speed warning device that complies with § 25.1303(c)(1).

[Amdt. 91-15, 30 FR 3638, Mar. 19, 1965, as amended by Amdt. 91-97, 37 FR 4327, Mar. 2, 1972]

§ 91.50 [Reserved]

§ 91.51 Altitude alerting system or device; turbojet powered civil airplanes.

(a) Except as provided in paragraph (d) of this section, no person may operate a turbojet powered U.S. registered civil airplane unless that airplane is equipped with an approved altitude alerting system or device that is in operable condition and meets the requirements of paragraph (b) of this section.

(b) Each altitude alerting system or device required by paragraph (a) of this section must be able to—

(1) Alert the pilot: (i) Upon approaching a preselected altitude in either ascent or descent, by a sequence of both aural and visual signals in sufficient time to establish level flight at that preselected altitude; or

(ii) Upon approaching a preselected altitude in either ascent or descent, by a sequence of visual signals in suffi cient time to establish level flight a that preselected altitude, and whe deviating above and below that preselected altitude, by an aural signal;

(2) Provide the required signals fro sea level to the highest operating al tude approved for the airplane which it is installed;

(3) Preselect altitudes in increme that are commensurate with the al tudes at which the aircraft is opera ed;

(4) Be tested without special equ ment to determine proper operation the alerting signals; and

(5) Accept necessary baromet pressure settings if the system device operates on barometric pre sure.

However, for operations below 3,0 feet AGL, the system or device ne only provide one signal, either visi or aural, to comply with this pa graph. A radio altimeter may be cluded to provide the signal, if the erator has an approved procedure its use to determine DH or MDA appropriate.

(c) Each operator to which this s tion applies must establish and ass procedures for the use of the altit alerting system or device and e flight crewmember must comply with those procedures assigned to him.

(d) Paragraph (a) of this section does not apply to any operation of an airplane that has an experimental certificate or to the operation of an airplane for the following purposes:

(1) Ferrying a newly acquired airplane from the place where possession of it was taken to a place where the altitude alerting system or device is to be installed.

(2) Continuing a flight as originally planned, if the altitude alerting system or device becomes inoperative after the airplane has taken off; however, the flight may not depart from a place where repair or replacement can be made.

(3) Ferrying an airplane with an inoperative altitude alerting system or device from a place where repair or replacement cannot be made to a place where they can be made.

(4) Conducting an airworthiness flight test of the airplane.

(5) Ferrying an airplane to a place outside the United States for the purpose of registering it in a foreign country.

(6) Conducting a sales demonstration of the operation of the airplane.

(7) Training foreign flight crews in the operation of the airplane prior to ferrying it to a place outside the United States for the purpose of registering it in a foreign country.

[Amdt. 91-57, 33 FR 12180, Aug. 29, 1968, as amended by Amdt. 91-97, 37 FR 4327, Mar. 2, 1972; Amdt. 91-133, 41 FR 47228, Oct. 28, 1976; Amdt. No. 91-142, 42 FR 42187, Aug. 22, 1977]

§ 91.52 Emergency locator transmitters.

(a) Except as provided in paragraphs (e) and (f) of this section, no person may operate a U.S. registered civil airplane unless it meets the applicable requirements of paragraphs (b), (c), and (d) of this section.

(b) To comply with paragraph (a) of this section, each U.S. registered civil airplane must be equipped as follows:

(1) For operations governed by the supplemental air carrier and commercial operator rules of Part 121 of this chapter, or the air travel club rules of Part 123 of this chapter, there must be attached to the airplane an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO-C91;

(2) For charter flights governed by the domestic and flag air carrier rules of Part 121 of this chapter, there must be attached to the airplane an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO-C91;

(3) For operations governed by Part 135 of this chapter, there must be attached to the airplane an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO-C91; and

(4) For operations other than those specified in paragraphs (b) (1), (2), and (3) of this section, there must be attached to the airplane a personal type or an automatic type emergency locator transmitter that is in operable condition and meets the applicable requirements of TSO-C91.

(c) Each emergency locator transmitter required by paragraphs (a) and (b) of this section must be attached to the airplane in such a manner that the probability of damage to the transmitter, in the event of crash impact, is minimized. Fixed and deployable automatic type transmitters must be attached to the airplane as far aft as practicable.

(d) Batteries used in the emergency locator transmitters required by paragraphs (a) and (b) of this section must be replaced (or recharged, if the battery is rechargeable)—

(1) When the transmitter has been in use for more than one cumulative hour; or

(2) When 50 percent of their useful life (or, for rechargeable batteries, 50 percent of their useful life of charge), as established by the transmitter manufacturer under TSO-C91, paragraph (g)(2) has expired.

The new expiration date for the replacement (or recharge) of the battery must be legibly marked on the outside of the transmitter and entered in the aircraft maintenance record. Paragraph (d)(2) of this section does not apply to batteries (such as water-actialpa

September 1, 1987

Mr. T. Allen McArtor, Administrator
Federal Aviation Administration
800 Independence Avenue, S. W.
Washington, D. C. 20594

Dear Mr. McArtor:

Enclosed please find the copies of three telexes delivered to the captains of various EAL flights during the month of August, directing the captains to operate their aircraft with the CVR and/or FDR inoperative out of and through maintenance bases. These directives appear to be in direct conflict with the FAR's and the aircraft Minimum Equipment List.

Your earliest attention to this matter will be greatly appreciated.

Sincerely,

D. H. McClure

Capt. D. H. McClure
Chief Accident Investigator

DHM/cm

enclosures (3)

cc: James Burnett

AIR LINE PILOTS ASSOCIATION
535 Herndon Parkway, P.O. Box 1169, Herndon, Virginia 22070 (703) 689-2270
SCHEDULE WITH SAFETY AFFILIATED WITH AFL-CIO

OP SJUOO MIAFV MIATE MIAFU
.MIADDEA 171551/405719

SJUOO
DLVR TO CAPT WREN FLT 934/17 AUG OPIG ACFT 225 SJU/ATL

AUTHORIZED TO OPERATE WITH COCKPIT VOICE RCDR INOP
AS PER ATA CODE 23-71-01 AND EAL VOL I PG 151
PART NOT AVAILABLE SJU.

CHIEF DISPATCHER VICTOR HAIRFIELD
DIR/CHIEF PILOT/SO.REGION FRANK CAUSEY
;
17AUG1551 0070 EXH

OP JFKOO JFKOC
.MIAXUEA 16/2143
INF
953/16 JFK

FOR DLVRY CAPT R D WREN, CAPT 953/16

YOU ARE AUTHORIZED AND DIRECTED TO OPERATE ACFT NBR 225
WITH THE COCKPIT VOICE RECORDER IN-OPERATIVE IN ACCORDANCE WITH F.A.A. APPROVED MINIMUM EQUIPMENT LIST.
REPLACEMENT OR REPAIRS CANNOT BE MADE AT JFK.

BILL STEPHENS - VICE PRESIDENT FLYING OPERATIONS
& CHIEF PILOT
2144 LARRY DUNN PH 873-6071

16AUG2146 0003 NKG

OP LAXDD MIADP MIADD DISPP
.MIADPEA 152131/405717

FOR DLVRY CAPT R. M. DENEVE AT LAXDD

YOU ARE AUTHORIZED AND DIRECTED TO OPERATE ACFT NBR 202 ON
FLT 84/15 LAX-ATL-FLL WITH THE COCKPIT VOICE RECORDER
AND FLIGHT RECORDER IN-OPERATIVE IN ACCORDANCE WITH
THE FAA APPROVED MINIMUM EQUIPMENT LIST.

CAPT BILL STEPHENS - VICE-PRESIDENT FLYING & CHIEF PILOT
;
15AUG2131 0059 ENL

note: cleared & directed thru ATL
in LAX. parts N/A in ATL???
R.A. Bealin

Administrative BULLETIN

#78-1

EASTERN FLIGHT OPERATIONS

TO: All Captains, First and Second Officers

SUBJECT: MEL Interpretation and Responsibility

DATE: April 7, 1978

On occasion questions have arisen concerning MEL items and whether or not it is the Captain's responsibility to determine the airworthiness of an aircraft with inoperative MEL items. The wording "May continue the flight or series of flights, but may not depart a station where repairs or replacements can be made..." has been particularly troublesome. This phrase has occasionally been interpreted as requiring written authority from Maintenance or Dispatch before departing from, or moving through, a designated maintenance station. After much discussion, correspondence, and legal interpretation the following information has emerged:

> An Air Carrier (the Company) is responsible for assuring that no aircraft departs any station with MEL/multiple MEL items inoperative without first determining that any interface or interrelationship between inoperative systems or components will result in a degradation in the level of safety or an undue increase in crew workload. Therefore, it is the Company that is legally accountable to determine when and where a defective MEL item is to be fixed. The Captain is not responsible for the legality in assigning MEL items or determining when and where repairs are to be made. FAR 121.627(c) assigns this responsibility to the Company, and the Company discharges its responsibility through its Maintenance/Engineering Department. So much for the legality of dispatch with MEL items inoperative.
>
> However, if the Captain feels, for any reason, that his flight cannot be operated safely because of inoperative MEL items, he may refuse the aircraft. The Captain and the Dispatcher at the time of dispatch

release, must agree that the flight can be completed safely considering all known factors (FAR 121.533(b)).

Should additional MEL items become inoperative after the flight has been dispatched, the Captain in concert with the Dispatcher has the responsibility to decide whether or not the flight can continue safely. As always, the Captain is in undisputed command of his flight, and has the final authority to determine whether or not his flight should continue.

W R Brady

W. R. Brady
Director
Flying Operations

E.P.M. orig EPM 7/12

interoffice correspondence **EASTERN**

TO: All Personnel
FROM: M. J. Fenello
SUBJECT: Minimum Equipment

ADDRESS: Miami
ADDRESS: Miami
DATE: February 8, 1980

Over the past couple of months there has been much discussion regarding legality of certain minimum equipment items. A lot of this was brought about by a letter from Mr. Bryant Chestnutt, Principal Operations Inspector, to Bob Massey. In this letter much was said about the words "Shall and May."

Flight Operations Administrative Bulletin #78-1 was issued on April 7, 1978. It was signed by Captain W. R. Brady, Director Flying Operations. The bulletin concerned MEL interpretation and responsibility. It outlined Flight Operations' position regarding the minimum equipment list. I am sure all of you have read this many times and suggest you take the time to refresh yourself again. Though there have been many interpretations, the backbone is the FAA preamble which states:

> The basic purpose of the MEL is to permit the air carrier to operate an aircraft with inoperative equipment within the framework of a controlled and sound program of repairs and parts replacements.

The interpretation of the use of three factors--manpower, materials, and ground time--has been followed by your company for many years without criticism by the FAA. These three factors must be used with reason and our maintenance/engineering department is responsible to see that they are. Decisions as to whether repairs or replacement can be made at a particular airport are decisions which are the responsibility of the maintenance department. It is not our responsibility under Eastern's rules or the FAR's, nor is it in our competence to determine where repairs can be made.

There have been and probably will continue to be differences within our minimum equipment lists. Much time and effort has been spent by the company trying to standardize these lists. Efforts are continuing to accomplish this. In the meantime, you must continue using your good judgment and expertise to insure the safety of our operation and at the same time give our maintenance department your utmost cooperation.

Mike F.

M. J. Fenello

cc: Captain T. R. Buttion
Mr. P. M. Johnstone

QP CLTOO
.TECSBEA 181254/1D061A

MINIMUM EQUPMENT LIST DEFINITION

CERTAIN LANGUAGE IN THE MINIMUM EQUIPMENT LIST REQUIRES CLARIFICATION TO AVOID MISINTERPRETATION. SPECIFICALLY. THE LANGUAGE IN QUESTION IS CONTAINED IN THE LIMITATION/ PROCEDURES TO BE FOLLWED WHEN DISPATCHING AN AIRCRAFT ON MINIMUM EQUIPMENT AND IS STATED AS FOLLOWS: "THE AIRCRAFT MAY CONTINUE THE FLIGHT. OR SERIES OF FLIGHTS. BUT MAY NOT DEPART A STATION WHERE REPAIRS OR REPLACEMENT CAN BE MADE."THE PREFACE OF THE VARIOUS FLIGHT MANUALS MINIMUM EQUIPMENT LISTS WILL BE REVISED TO INCLUDE THE FOLLOWING STATEMENT:ANY LIMITATION WHICH SPECIFIES THE AIRCRAFT MAY CONTINUE THE FLIGHT. OR SERIES OF

:
18NOV1255 0071 CCF

Jenkix

QP CLTOO
.TECSBEA 181255/1D061A
FLTS BUT MAY NOT DEPART A STATION WHERE REPAIRS OR REPLACEMENTS CAN BE MADE WILL BE DEPENDENT UPON AVAILABILITY OF GROUND TIME. PARTS. AND MAN-POWER.THE CAPTAIN IS LEGAL TO DEPART ON A FLIGHT OR SERIES OF FLIGHTS.FROM ANY STATION WITH THE ITEM ON MINIMUM EQUIPMENT

CAPT.W.STEPHENS	E. UPTON
V.P.FLT OPERATIONS	VICE PRES MAINT.

NOTE INFO IS CONTAINED ON ADMINISTRATION BULLETIN TO FLT OPERATIONS.REF NBR 78-1 DATED APRIL 7.78 .SIGNED BY
W.R.BRADY.DIR FLT OPS

NOTE' STATEMENT FROM CAPT.M.J.FENELLO DATED 2/8/80 TO CAPT T.R.BUTTION.AND MR P.M.JOHNSTONE SENIOR V.P..AND ALL PERSONNEL. CONFIRMS THE STATEMENT PERTAINING TO MANPOWER. PARTS.AND GROUND TIME.

THESE STATEMENTS WERE AGREED TO TO BY THE F.A.A. PRINCIPLE OPERATIONS INSPECTOR ASSIGNED TO E.A.L. MR.BRYANT CHESTNUTT

:
18NOV1255 0072 CCF

Mr. **Oberstar**. Captain Duffy?

Mr. **Duffy**. Mr. Chairman, regarding the same thing which I think you will remember with flight time-duty time rules where the same company was ordering pilots to break the Federal Air Regulations and said as much as we will pay your fines. We will take care of you, in other words, if you just go on and break the rules.

I think that gives you a sense of management's safety thinking over there, and the FAA chastised them rather sharply over that and told them they would not tell their pilots to break the rules.

Mr. **Oberstar**. Well, the FAA should come down, it seems to me, pretty hard on a matter of this kind. You have described the problem with respect to pilots. We will later look into similar or parallel incidents in which mechanics are given the same directive by management personnel—don't sign that problem onto the log, and the supervisor takes it on his recognizance and says that aircraft can fly and I am signing it out.

If that kind of situation is permitted to occur with any sort of frequency, I think clearly the margins of safety are eroded and safety itself is in danger.

Now, it could be said or maintained by the airlines that you don't need that piece of equipment to fly, that the aircraft can fly. But I think you said earlier, or Captain McClure did, that you want to have that altitude alerting system to let you know if you are on a collision course with another aircraft or you are in danger of doing so.

Mr. **Duffy**. It is one of those redundancies that we talk about. It is a back-up system to let you know if you have missed your own memory in leveling at the proper altitude.

Mr. **Oberstar**. The question is, should the company then be at liberty to suspend those redundancies in the interest of economics, of keeping that aircraft moving?

Mr. **Duffy**. Again, we would clearly tell you no.

Mr. **Molinari**. Would the chairman yield?

Mr. **Oberstar**. I would be glad to yield.

Mr. **Molinari**. Before you leave that issue, I know we are going to hear from the mechanics on the problems that they have experienced, but Captain Mitton, in the questions that I had asked of you, you talked about the fact that with your carrier, the one you work for, that you have this 25 or 30 percent turnover annually. In response to my questions, you indicated that it was a consequence of people seeking higher paid jobs.

I understand that the same kind of thing may be happening with mechanics with your carrier. Could you share with us your views on that subject?

Ms. **Mitton**. I would be happy to. It is not just with my carrier. It is virtually impossible to find mechanics to come to work for the wages offered by the regional airlines.

Given to me within the last six months by one of our maintenance supervisors was the following statistic. Now, my airline operates three different kinds of turboprops, and the supervisor informed me that on the smallest of our airplanes, which is a Bandeirante, that the average floor experience of the mechanics working on that airplane was four months.

The most sophisticated airplane that we do fly is a Saab. It is a new airplane with new technology, and the average floor experience of the mechanics working on the Saab was eight months.

Now, I have often joked with others and, with all due respect to our mechanics, that the mechanics ought to test-fly the airplanes that they repair. Most of them are afraid of flying.

The safety factor that I feel, however, is that with less than 10 percent—and it has only been recently—all of the airframes operated by my company are newly manufactured. They are not 20-year-old airframes. They are brand new aircraft. So, that gives me a little margin of personal safety.

But it is difficult to hire mechanics. It is difficult to keep mechanics, because the pay rates are so low.

Mr. MOLINARI. So, going back then, the average floor experience is four months.

Ms. MITTON. Yes, sir.

Mr. MOLINARI. What that means then is that at a relatively early point, they are moving on, and then you have people coming on board that are totally inexperienced. They are brand new.

Ms. MITTON. That is true. To illustrate the lack of experience, I would like to relate to you an incident that happened out of a Michigan airport.

The flightcrew after take-off retarded the power levers to climb power, except that one power lever would not retard. So, there they are with full power on one engine and unable to reduce power. Subsequently, the flightcrew shut down the engine and returned uneventfully to the field.

What they found was that two nuts were not safetied to a stationary part of the power console. They were safetied to each other.

Well, I am not a mechanic. However, I do know that is not proper, and here these two nuts had rotated off in deadly concert off the power cable, and there the flightcrew was with no way to reduce power on the engine.

Surely, someone must have known to safety these two nuts to something stationary and not to each other. It is a lack of experience, and it is caused by lack of wages to attract qualified people.

The same problem that we see in the pilot force is demonstrated time and time again on the maintenance floor, and I want to be sure you hear me say it is not that the mechanics do not want to do a good job. They are hampered by lack of experience.

Mr. MOLINARI. This is very sobering information. How is it that you as a pilot become possessed of this information from the mechanics? Would you mind explaining that to us?

Ms. MITTON. People love to talk to mom. They tell me things.

Some of this I have sought out. This particular story is not from my own company. As I told you earlier today, I bring to you a line pilot's perspective of life as we see it, and this is from another company.

Mr. MOLINARI. Thank you, Mr. Chairman.

Mr. OBERSTAR. I will return to the gentleman later. I think he has raised some very important points.

Captain Duffy, you are aware of a request from ALPA to the Miami Flight Standards District Office manager of April 3 for interpretation of the MEL language, "In event of malfunction or failure, the airplane may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made."

The regional counsel asked for interpretation or reviewed your request for interpretation of that language, issued a ruling on August 13, and said this opinion is that of the Southern Region but has been forwarded to the chief counsel's office for concurrence—meaning the chief counsel of FAA.

On September 18, the regional counsel issued a further memorandum referencing the August 13 memo saying that, "the issuance of deferral under MEL in the various circumstances described in your memorandum to us is a policy issue that cannot be determined on a region-by-region basis. I am advised that the issue is presently under review at headquarters and no final determination has been reached. Accordingly, please disregard my memorandum of August 13. National guidance on this matter will be issued as soon as possible."

To my knowledge, no such national guidance has yet been issued by FAA. Do you know of any?

Mr. Duffy. No, Mr. Chairman. I am quite sure it has not, because we have been eagerly awaiting that.

You see, we agree with the statement. We don't want it region by region, but the interpretation that Mr. Hagedorn gave was a very good interpretation originally. Unfortunately, it is ineffective because they are awaiting this national statement.

In the meantime, day by day, the pilots out there are having to deal—and the mechanics—with these situations without firm FAA guidance.

Mr. Oberstar. Wouldn't FAA guidance and clarification of this regulation put an end to the kind of kickball we are playing with this issue between pilots, mechanics, and the airline over an issue of whether or not an item listed in an FAR should be replaced or serviced at a designated maintenance facility?

Mr. Duffy. It would certainly give us the kind of backing that we are looking for. It would give the line mechanic the kind of backing he is looking for to be able to stand up to somebody who is trying to make him push something through.

Mr. Oberstar. Why should this thing be so complex?

Mr. Duffy. Mr. Chairman, it is an area that needs immediate addressing by the FAA, and why they are taking so long we have no explanation for.

Mr. Oberstar. This language has been in the FAR for years, hasn't it? I am sure the issue has come up before. This is not the first time that has been surfaced. You initiated this matter back in April of this year. There is no reason, to me, that the FAA should have taken so long to decide an issue that is so critical on a day-to-day basis.

Mr. Duffy. There should be no ambiguity in this whole area.

Mr. Oberstar. The final question I would like to ask Captain McClure. As chairman of the ALPA Accident Investigation Board which you referred to earlier, were you a party to the investigation of Eastern's Flight 216 that had the hard landing at Tulsa on September 15 which continued then to Kansas City and to Chicago before finally being subjected to repairs? Could you tell us about the landing and the subsequent events that occurred? I will also have a follow-up question for you.

Mr. McCLURE. I personally was not involved, Mr. Chairman. One of my committee members was the ALPA representative assisting the NTSB in that investigation. I know virtually of all that went on second-hand by his relating to me what has taken place so far in the investigation.

Mr. OBERSTAR. Can you relate for us what you do know of the incident with that caveat?

Mr. McCLURE. Yes, sir. The aircraft departed Kansas City for Tulsa on the evening of, I believe, the 16th. There was an extensive area of severe weather between Kansas City and Tulsa necessitating the airplane to deviate generally east to southeast of its course all the way to Tulsa. They actually came in and approached the airport from the southeast.

There was a process of decision-making in the cockpit as to which runway they would rather use, because the winds at the time of the approach were generally west to northwest, gusting to, if I recall properly, the high 20's to early 30's knots. Tulsa has an east-west runway that would be more aligned with the wind. However, it was fairly short, in the area of 7000 feet.

The flightcrew elected to land on the north runway, assuming that they could handle the cross wind a little bit better with the longer runway and a little higher approach speed.

The description I received from the first officer was that about 10 to 12 feet in the air, the bottom just fell out and the airplane lost its lift and hit the ground. The crew, upon taxi to the gate, wrote up the hard landing incident in the log book, of course, necessitating an inspection of the aircraft.

I understand that the co-pilot was contacted by American Airlines maintenance personnel who were contracting the maintenance work for Eastern at Tulsa to try to give a subjective answer as to how hard the landing was. This is kind of an interesting topic of discussion, because I am not sure that as long as I have been flying I have ever seen a definition of a hard landing, but I am sure that you folks on the rarest of occasions have experienced a pretty firm arrival. I know I have made enough of them myself.

Mr. OBERSTAR. That is an interesting distinction between a hard landing and a firm arrival.

Mr. McCLURE. There are a lot of people that dwell on—how should I say it—the interpretation of a hard landing, and if I said I had made hard landings, everybody would be on me for not writing them all up, but I have made some firm arrivals, I can assure you.

In any event, the aircraft was inspected that evening in Tulsa by the maintenance personnel who were working with our technical service folks in Miami. The crew came out the next morning to take this same airplane and fly it to Kansas City and Chicago. They walked around the aircraft, they looked at it, they observed the sign-off in the log book.

They flew on to Kansas City, and they felt, for whatever reason, that it probably would be a good idea to have Eastern maintenance personnel additionally look at that airplane in Kansas City upon their arrival, which they called for. The maintenance personnel met them—exactly how many people I don't know right now. I don't have those figures.

I do know that there was some discussion about whether or not the airplane should continue on to Chicago with the wrinkles that were up in the upper portion of the fuselage. As I understand it, the captain elected to fly on to Chicago with the airplane, as he had been assured by both maintenance supervisory personnel on the ground at Kansas City as well as our technical services department in Miami that the airplane had been properly inspected and it was okay to continue.

The airplane took off, proceeded to Chicago, and apparently while the airplane was en route to Chicago, somebody called the FAA. At that point, once the airplane got to Chicago, the FAA got into it. The airplane was grounded. It was reinspected and it was found in fact to have some substantial damage to the overhead portion of the fuselage.

On the extent of the damage, I can't give you all of the stringers and the station numbers, unfortunately. I haven't been that close to it. The NTSB certainly could provide that, but that is the gist of the story.

Mr. OBERSTAR. Would you characterize the condition of the aircraft flying with the damage noted?

Mr. MCCLURE. Well, I guess the best way to describe it—I have to say two things, and they both are disturbing to me and I think probably will be to you. One of them is that I don't ever recall being taught anywhere since I have been an airline pilot where to really look for damage on an airplane after a hard landing as a flightcrew member would if he walked around his airplane. I have been fortunate enough to learn this, because I have been involved in accident investigation work. I have subsequently been associated with this sort of problem or damage to an airplane.

It depends on where the airplane hits and how hard it hits where you go to look for trouble on the airplane.

The other thing that concerns me—of course, I assume that this flightcrew had none of that training—is, for instance, I wrote up an aircraft in Fort Lauderdale last year, one of our 727's. When I got off the airplane, I noticed in front of the number 1 engine that there were a series of wrinkles in the fuselage, and I requested maintenance to inspect the airplane.

I had not made a hard landing in the one leg that we had flown the airplane, and I was curious as to what had caused this deformation of the skin. The sign-off in the log book was to the effect that this damage was previously noted under a damage control item number 98 whatever—it was a five digit number—and had been observed and documented by our maintenance department fully two months before I flew the airplane.

Well, the reason that concerns me is if there was damage done to the airplane, if it was inspected—and let's assume there was no real damage done to the airplane but just skin wrinkling—and you turn the airplane out and let it go fly again, how is a pilot to ever know whether the damage he is looking at is old damage or new damage or whether there is more damage done to the airplane.

Why weren't the wrinkles in the skin fixed?

Mr. Oberstar. Good question. Are those not life-threatening? Is it a determination by somebody in the corporate management that this is not a life-threatening or flight-threatening condition? You can fly the aircraft and it won't matter anyway?

Mr. McClure. Absolutely. When an aircraft has been subjected to a hard landing and then an inspection occurs, there is a detailed list, a checklist of items that the maintenance personnel will have to go down through and check off each item and each area to be inspected to ascertain that there is no structural damage done to the airplane.

Mr. Oberstar. So, if you cite an aircraft for a condition of this kind, but the aircraft could be flown without risk to passengers or crew, the company would be unhappy about it.

Mr. McClure. I am not sure I follow your question, sir.

Mr. Oberstar. Well, I am saying that if you have a condition you have noted, there is some structural problem like this skin wrinkle, you can fly the airplane.

Mr. McClure. Certainly.

Mr. Oberstar. But you say no, I won't fly that airplane because it has a problem. I want that problem fixed before I fly it. Does the company then get on your back and say wait a minute? You are interfering with the economic operation of this airline over a matter that is not of significant safety importance?

Mr. McClure. I think they probably would, but in my particular case, that didn't happen. I took the airplane, but in thinking about it later on, what I really was concerned about was let's assume on February 2, the wrinkles are formed by a hard landing. The airplane is inspected, there is no structural damage, and out it goes on the line.

Two months later, I get the airplane, and I see the wrinkles and I request the airplane be inspected. They say, well, it is okay to continue, because those wrinkles come from the February 2 damage.

Well, how do I know sometime between February 2 and April whatever it is that I pick the airplane up that it hasn't had another hard landing and there in fact might be structural damage unless they inspect it?

Mr. Oberstar. Well, I think that is clearly serious. It is a matter that should be resolved and that, as you say, a subsequent pilot ought to know of a condition that previously existed.

This happened, of course, with Eastern. Are there other airlines that you know have the same problems?

Ms. Mitton. Yes. Within the regionals, it is quite common when an airplane comes into base for maintenance that when it leaves the next morning, its clipboard is clean. That is, it will contain those items properly deferred. However, it will not contain the last week or two weeks' in flight worksheets which would define a recurring problem with a generator perhaps or something of that nature.

I personally don't care to take an airplane out that has a clean clipboard. It makes you wonder what happened to the plane last week or last month, and it is very common among the regionals.

I don't know about the majors, but when we receive the aircraft clip board, it will have only today's data in it.

Mr. **Duffy**. Mr. Chairman, that goes to the example I used in my testimony. One of the things that a pilot likes to do is go back through the log book and see what has been happening to that airplane. If you get a nervous gauge where you are not sure if it is the gauge or an actual component that is going bad, you like to flip back through and see if somebody else had a nervous gauge too.

If we are not privy to that history—and that is what we were using in the Air Illinois example—then it takes a diagnostic tool away from the pilot.

Mr. **Oberstar**. It certainly makes a great deal of sense to be able to know the previous history of that aircraft so that if you do have a problem, you can relate to what has previously been there.

Is there not an FAR that governs the matter of reporting of such information?

Ms. **Mitton**. It is not a matter of reporting or keeping. It is a matter of presenting it to the pilots.

I wanted to further say that within a typical day for a regional pilot, he might fly three or four aircraft in one day and usually has about 20 minutes to accomplish a pre-flight and an acceptance of the next airplane. When you get an airplane and it has a clean sheet in it, as it were, you are taking on faith that it really is a clean airplane, and you may not know that it has had sticky landing gear for the last three months.

Our exposure to this is very high.

Mr. **Oberstar**. That is astonishing.

Mr. **McClure**. Mr. Chairman?

Mr. **Oberstar**. Yes.

Mr. **McClure**. I think I must add, out of deference to Eastern Air Lines, that, in fact, on all of our aircraft, we keep the present and current log book that is in effect at the time plus the previous one on board the airplane which does allow us to recreate a portion of the aircraft's history, probably over the last 15 to 18 days, depending on how many legs it has flown. That is a help.

Mr. **Oberstar**. Thank you. That is very helpful.

The Chair recognizes the gentleman from New York.

Mr. **Molinari**. I guess first I listen to this business about hard landing and a friend of mine whose son recently became a pilot on one of the shuttle flights told me a story last week, and I am sure there is no truth to it, but he said when the crew comes in and they have a hard landing, that the pilots when they land keep the cabin doors locked, but when they come in on a smooth landing, they quickly open the door and smile at all the passengers. There wouldn't be any truth in that kind of story, would there, Captain Duffy?

Mr. **Duffy**. It is worse than that. If the co-pilot makes a good landing, the captain runs back and greets the passengers. [Laughter.]

Mr. **Molinari**. Well, I guess in light of all the seriousness that we have been talking about here today, it is good to inject a little levity.

Captain McClure, I think that one of my staff has reviewed with you one of the Eastern aircraft maintenance log records on flight 863. On June 17 of this year, there was an entry that the altitude warning system came on at 350. Circuit breakers were pulled and reset. The system was still malfunctioning. I can't make out the corrective action, but it appears as though they assigned it to Miami for some action.

The following day, the flightcrew advised of maintenance action taken by the station and, again, the altitude alert is inoperative. Under corrective action, they have 48 in parentheses and "okay to continue to well fit, Miami dispatch." It is either Fallon or Falcon, Miami, no time available.

Do I interpret that to mean or would you interpret that as they are not able to make those repairs at Miami at that particular time?

Mr. McClure. I don't think the airplane was in Miami. I think what that MIA code means is that the maintenance people who signed the log off in the corrective action section were in fact dealing with our technical services people in Miami, MIAT.

The thing that alarms me about that particular sign-off or corrective action signature is that it says that it is okay to continue, we don't have to fix it, because we don't have time to fix it.

Mr. Molinari. That is the point I was trying to get at. That is what that does mean, right?

Mr. McClure. That is the way I interpret it.

Mr. Molinari. That they have no time available to repair it had they gone to Miami where those repairs would normally have been made. Is that your interpretation?

Mr. McClure. No, I don't think it had to be Miami. It was just that at that time, it could have been going anywhere, that they would make them further down the line wherever they thought they could find time.

Mr. Molinari. Miami would take care of the assignment as to where the repairs would have been made?

Mr. McClure. That is correct, and I think it was ship 863, not Flight 863. I believe the aircraft number was 863.

Mr. Molinari. That is correct. Yes, 863.

According to the follow-up logs, this business of the altitude warning light was first reported on the June 17 and subsequently reported on six separate occasions. It wasn't until June 30—God knows how many flights later—that that plane was eventually grounded for corrective action.

Now, you reviewed this, I think. It was shown to you?

Mr. McClure. Yes, sir.

Mr. Molinari. Could you tell us what happened and why and what the problems are here?

Mr. McClure. Well, I think that very much parallels the incident I mentioned of the shuttle aircraft that I picked up.

Mr. Molinari. It is not the same incident, is it?

Mr. McClure. No, sir. It is a different airplane completely.

And that is that either the time or the parts were not available and, therefore, the company saw fit to go ahead and operate the airplane without that piece of equipment for however many days it took them to finally pull the airplane into a hanger and fix it. It is as simple as that.

Mr. Molinari. So that your incident is one that is probably repeated many times, albeit this record here.

Mr. McClure. Yes, sir.

Mr. Molinari. I would like to get back to Captain Duffy just briefly.

You had indicated before in answer to Chairman Oberstar's question that in some cases, pilots were instructed to fly although they normally would have chosen not to fly and they were told if you are fined, we will pick up the fines and pay them for you.

Could you give us some further detail on how that worked and who was involved?

Mr. Duffy. There was a dispute. The FAA had issued its new flight time/duty time rules. We were allowed to fly 30 hours in a 7-day period. Eastern developed an innovative interpretation of how you kept score of those 30 hours that was contrary to anybody else's that we knew about. Our pilots took their clear understanding of what the FAA really meant and said we are not going to exceed that 30 in 7 days, and Eastern said yes, you will, and you will abide by the company interpretation, and if the FAA fines you, the company will take care of you and pay the fine.

The FAA issued a sharp rebuke to the company for doing that and told them that they would not advise pilots to break FAR's.

Mr. Molinari. Is that in writing?

Mr. Duffy. Yes.

Mr. Molinari. I have just one last question, the question that is often asked of us when we are concluding an interview on radio or TV. They generally throw out this blurb and I am sure they have done it to you: Is there anything else you would like to add? This is your opportunity to tell us, this subcommittee that has a very profound interest in this area, what is it that we might have missed today or in past hearings that concerns you and that we should be addressing in the near future? Is there anything that we haven't covered that does concern you and should concern us?

Mr. Duffy. I think, first of all, the committee's holding this type of hearing puts the spotlight back where it needs to be, on an area that I think the industry has gotten deficient in. I feel that the one area that perhaps has not been explored sufficiently is what additional backing can you give to the captain that allows him to stand up and make a firmer stand and gives him insulation against the kinds of practices that are creeping into the industry.

I don't know if it is typical whistle-blower protection, something that does exist in other industries, I know, but we haven't needed it for a long time. So, frankly, we haven't thought about it for a long time. We haven't really needed it since the 1930's, but if this is going to be prevalent in the industry, then we are going to have to give our captains some additional legalities in order to let them make a firm stand and not be coerced into doing something that they should not.

The weapons in the hands of some companies in this area, particularly where there is no grievance procedure and there is an instant firing available, can put some heavy pressures on a pilot.

Mr. Molinari. Your last chance, Captain Mitton or Captain McClure?

Ms. Mitton. My favorite topic is money. I was not a professional pilot in the days prior to 1978, so I view this a lot differently. All I have is today.

However, the ubiquitous bottom line should not prevent a carrier from hiring and maintaining and keeping qualified maintenance personnel and pilots, and I would sum it up clearly as money.

Mr. **Molinari**. Thank you very much.

I have no further questions, Mr. Chairman.

Mr. **Oberstar**. Mr. Rowland?

Mr. **Rowland**. You anticipated my question by saying the bottom line was money, because that is what I wanted to ask you about. We heard earlier today about the hub and spoke system and how this had spread thin maintenance personnel, and then we heard you talking about inexperienced mechanics. My question was going to be, if we have so many inexperienced mechanics now that they are even spread thin because of low pay? Is that the principal reason that there are not an adequate number of experienced mechanics?

Ms. **Mitton**. That is part of it. I understand that carriers go to AP schools and literally snap up classes as a whole, but they are unable to keep them. There are not enough mechanics who will work for low wages. I realize I am twisting the same money around a different corner. There are not enough mechanics who will work for the low wages, and I am not certain that the supply is ever going to be there without some protection for the financial security of the workers.

Mr. **Rowland**. Do you think that the competition now between airlines, the low competitive fares that they have is a substantive part of the problem?

Ms. **Mitton**. I am certain that it is in my mind. When the public is looking for the cheapest fare to go visit granny, in order to provide the cheapest fare, the companies will find a way to reduce their costs, and then we are back to the same position of not carrying enough parts in inventory, not having a qualified mechanic at this location to provide this service.

Quite as an aside, earlier, Ms. Naismith spoke about contract maintenance, and I wondered at the time if all you folks were thinking about was American doing maintenance for Eastern. There are other contracts out there. For instance, if one of our aircraft breaks down in, let's say, Cleveland, an out-station, the gentleman who comes to sign our ferry permit is not another airline mechanic. He is a mechanic at the local FBO who fixes Piper Cubs and Cessna 172's and, very often, I, not a mechanic, must then show him how to open the cowling, point out the failing system and how it relates to 13 other matters, and how I need to conduct the flight home, and he will say oh, okay, and he will sign me off. He is a contract maintenance person.

So, that exists out there as well.

Mr. **Rowland**. Often?

Ms. **Mitton**. Well, for Comair, we only have one maintenance base and we serve 20 or 25 or 30 cities.

Mr. **Rowland**. Let me ask you this question, all three of you, and it is a straightforward blunt question. How would re-regulation affect the safety of the system?

Mr. **Duffy**. Well, Mr. Rowland, it would take the economic—presuming that re-regulation brought back some sort of fare stabilization, it would take the economic pressures off of the companies and remove whatever incentives or drives are there to cut back on areas that were never cut back on before deregulation came in.

One of the problems that Captain Mitton is pointing out right now is that the regionals are in a real economic box. They only have so many seats on those airplanes, and they can only get so much money per seat. It puts limitations on what they are able to pay pilots and pay mechanics. Therefore, the maintenance people turn over, and the pilots turn over which puts an added burden on them.

Their ability to retain experienced people, other than the people who like the life style, like where they are living or something of that nature, is a tough one. So, short of your giving them some fare stabilization that gives them an an amount of money to work with, they are never going to beat that system.

In ALPA, obviously, we fought deregulation, but we don't in our fondest hopes think it is going to go back to regulation. However, I think the traveling public has a right to be able to expect a uniform degree of safety when they go to any one of these regional carriers and get on board those airplanes. That is an FAA responsibility to provide that uniform degree of safety, and that we don't feel is being done at the present time.

Mr. **Rowland**. Thank you.

Mr. **Oberstar**. Mrs. Johnson?

Mrs. **Johnson**. In your testimony, you talk about the SAFE program and the proposal that by the end of this year, it will update the flight standards system and, by 1990, will provide a system that will continuously evaluate the environment, program management, and industry safety status. What I am really asking you to do is, what is there between re-regulation and this kind of program and implementing it or making other changes that will get at the safety maintenance issue? How can we oversee that? How can we make sure it happens without re-regulation?

I understand re-regulation and the economic incentive, but re-regulation and that particularly economic incentive, while certainly a problem here, also creates some other problems of access for American citizens and other things. So, I don't know whether you talked about this earlier in the hearing, but I would be interested in your inserting into the record any proposals that you would make to address this problem short of re-regulation.

Mr. **Duffy**. Mrs. Johnson, it really comes down to safety regulation. We are not going to see Civil Aeronautics Board type of re-regulation. We think there is a proper area for increased safety enforcement.

Mrs. **Johnson**. And do you think the direction that the SAFE study is going is going to meet your concerns?

Mr. **Duffy**. If they fill the manpower requirements that are showing up from the SAFE study, yes, but just identifying the fact that we need more manpower isn't going to do it. We have to actually fill the positions.

Mrs. **Johnson**. Thank you.

Mr. **Rowland** [presiding]. Thank you very much. We do appreciate your testimony.

Mr. **Rowland**. The subcommittee will stand in recess while we vote.

[Recess taken.]

Mr. **Oberstar**. The subcommittee will resume its sitting.

I think we can anticipate being able to continue until possibly 5:00 when additional votes are expected.

I see we have our next panel ready to go. We are pleased to have with us Mr. John Kerrigan of the Transport Workers Union of America along with Mr. Art Luby, General Counsel; Mr. Richard Koziatek from American Airlines; and Mr. Marion Finley of Local 514.

Gentlemen, would you please rise?

[Whereupon, the witnesses were sworn.]

Mr. **Oberstar**. We greatly appreciate your presence, your participation, but, above all, your patience in waiting for the considerable number of votes and other interruptions that have plagued us throughout this day.

Mr. **Luby**. We had to get our legal staff together and make sure everyone was represented when they took the oath.

Mr. **Oberstar**. All right, Mr. Luby. Would you please begin?

Mr. **Luby**. Well, I would like to introduce the director of the TWA Air Transit Division, Mr. John Kerrigan. With me on my right, I also have Mr. Rick Koziatek and Mr. Marion Finley, both of whom are two line mechanics and bring a lot of technical expertise to this hearing.

TESTIMONY OF JOHN KERRIGAN, DIRECTOR, AIR TRANSPORT DIVISION, TRANSPORT WORKERS UNION OF AMERICA, ACCOMPANIED BY ART LUBY, GENERAL COUNSEL; RICHARD KOZIATEK, INTERNATIONAL REPRESENTATIVE, AMERICAN AIRLINES; AND MARION FINLEY, VICE PRESIDENT, LOCAL 514, TULSA, OK

Mr. **Kerrigan**. Thank you, Mr. Chairman.

I am John J. Kerrigan, the director of the Air Transport Division, Transport Workers Union of America, AFL-CIO. Appearing with me, as just stated by Counsel Luby, is Marion Finley of TWU Local 514 in Tulsa, Oklahoma where our local there also represents various stations of American Airlines in that area, and Brother Finley is a quality control inspector, and he will be testifying, among other things, on some more in depth of the incident at Tulsa with Eastern that was testified to earlier.

Also with me is Rich Koziatek from our Local 512 in Chicago and has had many years of line mechanic experience on American Airlines.

TWU represents 130,000 members involved in various modes of transportation, including airlines, railroads, and bus transit. We represent some 60,000 employees in the airline industry in virtually all class and craft. The bulk of our airline membership, however, is in the mechanic craft and class.

In this regard, we represent all ground personnel, including mechanics, on American and Pan American World Airways. Therefore, we are very familiar with all of the issues connected with airline maintenance. Over the years, we have closely monitored many of the problems in aircraft maintenance which this committee now wishes to examine.

When TWU President John Lawe testified on this subject more than a year ago, he commented on the tangible deterioration in commercial aviation maintenance which had occurred up until the Secretary of Transportation's famous white glove inspection of 1985. Up until that inspection, serious problems had developed concerning frequent maintenance deferrals, lack of proper staffing and parts inventory at hub stations, and lengthy time lapses between full-scale overhauls.

These problems, combined with a lack of a proper complement of FAA inspectors to oversee the system, seriously threatened the level of safety in American aviation. We have no doubt that this deterioration was a direct result of the unbridled economic competition introduced in the aviation system by airline deregulation combined with the Reagan Administration's four years unwillingness to properly staff its inspector work force and strictly enforce the letter and spirit of the FAR's.

This left carriers like American and Pan Am, which have had traditional commitments to maximize the margin of air safety, at a considerable competitive disadvantage to those carriers who were only too willing to cut corners.

While a number of problems remain, we are pleased to say that at least in the carriers where we represent mechanics, maintenance standards have been substantially restored since the inspection. The deferrals are much less common and, at last, the ratio of FAA inspectors to carriers is starting to climb after reaching a low of 1.33 FAA inspectors per carrier in 1985.

In looking to the future, we have a number of concrete recommendations to ensure that the potential for catastrophic situations which developed between 1981 and 1984 does not recur. To begin with, we strongly believe that the Federal Aviation Act and the Federal Air Regulations should be amended to protect those employees who honestly and frankly discuss aspects of the carrier's operation which may create potential hazards to the flying public from retaliation by the carrier.

In making these recommendations, we stress that we are not responding to any problem that we experience at American or Pan Am. After canvassing our membership at American and Pan Am, we are pleased to report that we could not find a single incident in which a crew chief or a mechanic's judgment that an aircraft was not airworthy was overruled. Moreover, we are not aware of any retaliation or discipline taken against our members for expressing judgments to the FAA, the company, or the rank and file on airworthiness or the margin of safety of the carrier's operation.

Unfortunately, there are a number of ominous signs in the industry. The press has all too frequently reported discipline taken against employees who, meritoriously or not, express reservations and disagreement about the safety of a particular carrier's operation to the FAA.

More alarmingly, in recent testimony before the Aviation Safety Commission, Texas Air Corporation suggested that not only the carrier but the FAA should punish those personnel who report violations which are not meritorious.

There is no question that aviation safety is dependent on free communication between line personnel, particularly those directly responsible for aircraft maintenance, and those responsible for policing the system, the FAA. Indeed, the concept of certification, which is the heart of Federal Air Regulations, essentially amounts to a requirement of dual loyalty to both the flying public and the carrier, not just the carrier. Anything which interferes with such communication will ultimately work to the disadvantage of the flying public and benefit those unscrupulous carriers who would wish to escape oversight by intimidating and punishing employees who, in good faith, raise concerns.

Both the Railway Labor Act and the National Labor Relations Act contain sweeping protections against retaliation or punishment for employee discussions relating to wages, hours, and working conditions. The Clean Air Act contains so-called "whistle-blower" protection against employees who report violations of its provisions. We see no reason why the Federal Aviation Act and the Federal Air Regulations should not contain similar measures to assure open communication between aviation employees and the agency.

TWU is also concerned about the growing amount of maintenance work contracted out by a number of carriers. The FAA still does not have an inspection work force adequate to police the system of carriers. In fact, they remain far below their pre-deregulation coverage.

To the extent maintenance is contracted out to entrepreneurs outside of the air system who would not normally be subject to the FAA inspection, the FAA's inspection burden is increased. In fact, we have serious questions about whether such contractors are properly inspected and examined.

Of equal significance, to the extent that a carrier depletes its own maintenance resources and becomes dependent on outside contractors, it loses its capability of spotting and dealing with problems and engaging in the sort of preventive maintenance crucial to aviation safety.

Unfortunately, despite our belief that the FAA should consider limiting contracting out, it is considering amending the FAR's to expand outside contract work by allowing maintenance of domestic carriers to be performed overseas. As we stated in testimony on this issue before Chairman Mineta's Aviation Subcommittee, there is absolutely no basis to believe that the TAA can properly police performance of such work, and allowing this kind of contracting out would represent a serious step backwards for the cause of improved aviation maintenance.

We would further suggest that the FAA take a stronger role in improving and standardizing each carrier's internal maintenance procedures and staffing. There will, of necessity, be differences in carriers' procedures if for no other reason than the differences in equipment. However, we find that even now there are differences between carriers concerning the amount of flying time between major overhauls, that is, requiring an airplane to go out of service, and between the frequency of stop-overs at bases with the capability of performing heavy maintenance work.

For example, American, to its credit, requires aircraft to go through a maintenance base at least every three days. That is not the practice among a number of other carriers, and they undoubtedly draw a competitive advantage by allowing themselves this sort of unwarranted schedule flexibility.

Carriers also differ in relations to the staffing and inventory at stations. These are basic maintenance practices of real significance, and we see no reason why the FAA should not set strict standards to eliminate this sort of difference between carriers.

Finally, we are puzzled by the FAA's formula for deciding when and how many times a particular carrier is inspected. In 1985, American, with substantially fewer safety violations and customer complaints than Continental, was inspected approximately twice as much. Even now, American based in Texas is inspected by the FAA's Dallas office while Continental, also based in Texas, is inspected by the FAA's Los Angeles office.

In short, we do not understand the rhyme or reason for the FAA's allocation of inspector resources, and we hope that by the end of this hearings, we will have an insight into this issue.

In closing, Mr. Chairman, we appreciate the opportunity to testify.

Sitting beside me, as I stated at the outset, are two highly qualified mechanics who, I am sure, will be able to answer any technical questions that the committee may have.

In addition to my written statement, I would like to add that there is an obvious relationship between safety and economics. If an airline is understaffed, if morale is low, if there is insufficient inventory, or if employees are intimidated or fearful, maintenance will suffer. In other words, you cannot always compartmentalize economics and safety in the way that the FAA seeks to do.

Thank you, Mr. Chairman.

Mr. **Oberstar**. Thank you very much for a very clear and forthright and obviously very carefully thought through statement. It will be very helpful in our hearing.

Are there any other members of the panel who have prepared opening remarks?

Mr. **Luby**. I don't think anyone has prepared remarks. As we indicated before, we do have someone who was directly involved in the Tulsa incident who is capable of testifying concerning it as well as a number of other things.

Mr. **Oberstar**. Fine. We will get to that in a moment.

Mr. Kerrigan, you have discussed the policy of the two airlines to which you referred about safety. Does either American or Pan Am have a policy requiring an employee to report to the company first before he either records something in the log book or reports to the FAA?

Mr. **Kerrigan**. There is no written policy on either airline that I know of. I would just say it is historic practice. It is the practice to report to the company first.

I think probably Rich Koziatek deals with that every day and could explain the procedure.

Mr. **Koziatek**. I am a line mechanic in Chicago at O'Hare Airport. I have been with American for 31 years.

American has an established procedure where if a mechanic finds a mechanical discrepancy or has some question about a repair or airworthiness of an aircraft or something of that nature, he records it in writing on what is called an E-58 form, which is a written record of a mechanical discrepancy requiring corrective action. After the corrective action or the repair, then it is signed off by another qualified and licensed mechanic.

That is the established procedure that we follow at American.

Mr. **Kerrigan**. And Pan Am is similar, although, very frankly, I have been on union leave for 27 years, but I know the procedures are almost identical. But there is no directive that an employee could not report, say, to the FAA or somebody else.

Mr. **Oberstar**. And have you heard of a practice called use of supplement sheets? Are you familiar with that term?

Mr. **Kerrigan**. I am not.

Mr. **Finley**. I don't understand what you are talking about, a supplement sheet.

Mr. **Oberstar**. Well, neither did we when we ran into this practice of another airline, but there are certain circumstances in which a supervisor can direct a mechanic to report an item on a supplement sheet and go to the supervisor and say I have a problem with the airplane, Mr. Supervisor, what do you want me to do with it, instead of that mechanic taking this problem and writing it in the log book first.

Mr. **Kerrigan**. I have never heard of——

Mr. **Oberstar**. You have never heard of that?

Mr. **Kerrigan**. Have you?

Mr. **Finley**. I work at the maintenance base in Tulsa, and at the maintenance base, it is a little different where you are overhauling the aircraft itself and it does not go directly into the log book, but you are working off of ECO's, work orders, E-58's as such. Also, over in the engine overhaul area where mechanics do write on a separate sheet of paper, but it is a single sheet, and it is also classified as an E-58, they write down what items they see need to be repaired. Then they work those items off and sign it off.

As far as an aircraft overhaul, I know of none.

Mr. **Oberstar**. Have you ever had a supervisor, Mr. Koziatek or Mr. Finley, say "Look, if you have a problem, you come and tell me about it. It is my prerogative as to what I do about that problem"?

Mr. **Koziatek**. Well, it is an understood policy that before taking the item to any other agency like the FAA, as an example, the mechanic should rightfully take it to the company and allow them to take corrective action. If the individual mechanic at that point in time has a concern about the airworthiness of a repair or the procedural aspects of the repair, then he is free to go to the FAA.

Personally, I talk to a lot of our newly hired mechanics at O'Hare, being a union representative, and one of the things that I instill in them is the fact that they owe a loyalty to the flying public through the FAA before they owe a loyalty to their employer, American Airlines. I say that, and I am a loyal American Airlines employee, but that is my feeling.

Mr. **Kerrigan**. Mr. Chairman, I would like to point out to the committee that several years ago, I believe first in the 1978 or 1979 negotiations with both American and Pan Am—and we then elaborated on that, I believe, in the 1982 negotiations—we completely changed the job description in our collective bargaining agreements to give our crew chiefs just about the same authority as the supervisor so that the crew chiefs who run the crews and are covered by the collective bargaining agreement exercise what used to be exercised by line maintenance on those two airlines. In fact, they have, in some cases, virtually eliminated line supervisors.

So, our crew chiefs are in fact exercising authority that maybe on another airline would be exercised by management personnel.

Mr. **Oberstar**. Well, your responses are interesting. What I am inquiring about is perhaps not going even so far as reporting to the FAA. If a mechanic finds an item that he is concerned about that, in his judgment, would ground that aircraft, be it American or Pan Am, is it policy or unstated understanding—unwritten understanding, I should say—that he goes to his supervisor first before writing something in the log book?

Mr. **Koziatek**. No. As far as I know, he doesn't, as a matter of policy, talk to the supervisor before writing it into a log book. He would enter it on an E-58 form perhaps, because we don't make every entry into the log book per se. As an example, on an overnight inspection, an individual mechanic might write up 10, 15, or 20 items which would fill 2 or 3 pages of the log book. We make our entries on this E-58 sheet as such.

So, the mechanic would make that write-up and then at that point take it to the supervisor, and this E-58 sheet also has a carbon copy which the mechanic could retain as a record that he has written it up.

Mr. **Oberstar**. What happens to the E-58 form? Who sees it? Where does it go after the mechanic writes it up?

Mr. **Koziatek**. It is made a part of the aircraft's records. On an overnight, the overnight inspection package with all the signatures by the mechanics and the release of the aircraft for flight are kept as a permanent part of the record and available for FAA inspection.

Mr. **Oberstar**. So, an FAA inspector could look at that. Can a pilot look at that?

Mr. **Koziatek**. No, the pilot wouldn't have access to it necessarily, but the FAA, because the maintenance package would be in files, and that does not normally go with the log book.

Mr. **Oberstar**. Can you give me an example of the type of item you might enter into an E-58 form as compared to writing it into the log book?

Mr. **Koziatek**. Well, an entry into the log book would be done at an outlying station, maybe where a mechanic did a walk-around inspection around an aircraft and made the entry into the log book as a maintenance entry. Normally, the log book entries are primarily the flight crew entries, and the mechanics portion of it are the clearing of the entry, the original write-up, and the signature by the mechanic for what he had done to repair the item or what he had done to functionally test the system and to identify all the part numbers and such that he utilized in that repair.

Mr. **Oberstar**. Have you ever found a fuel leak on an aircraft?

Mr. **Koziatek**. Yes, I have.

Mr. **Oberstar**. Where would that likely occur or usually occur?

Mr. **Koziatek**. Well, it occurs in various places. I have seen sometimes a rivet would be weeping fuel on the underside of a wing, perhaps a stress plate screw might be over tightened or the threads would not be properly, or possibly a poor seal on a fuel tank access plate.

Mr. **Oberstar**. You would notice this because you would see a weep of fuel coming out of that point at which there is a defect?

Mr. **Koziatek**. Yes.

Mr. **Oberstar**. And what would you do in a circumstance like that when you found a fuel leak?

Mr. **Koziatek**. The first thing I would do as a mechanic would be to write the entry on an E–58 form. Second, I would go to the general maintenance manual which is our FAA-approved repair procedure that we follow to determine as far as the extent of the leak as to whether it was—and this might seem strange to hear—within permissible limits as far as how many drops per minute or something of that nature. It depends on the area it is on. On the wing, that is not necessarily true, because leakage is not allowed as a general rule, obviously.

Mr. **Oberstar**. You don't want that aircraft moving if it has a fuel leak.

Mr. **Koziatek**. Of any substance, of course not.

Mr. **Oberstar**. Would you write it in the log book?

Mr. **Koziatek**. No, I wouldn't put it in the log book. Our procedure is to enter it on the E–58 form.

Mr. **Oberstar**. And then would that aircraft move before the problem is corrected?

Mr. **Koziatek**. Well, if the aircraft, as an example, was at our maintenance hanger on an overnight inspection, the aircraft would not be taken out of the hanger and taken to the gate until the problem is rectified or it was determined that it was of a nature that it did not exceed any acceptable limits, if I can put it in those terms.

Mr. **Oberstar**. What is the FAA policy on involving the agency when airline employees are fired or disciplined or some other action taken against them for reporting safety violations?

Mr. **Luby**. If I could answer that as counsel, it is my understanding that the FAA has no role and is unwilling to play any role in something like that. In fact, I recall very distinctly sitting in Mr. Burnley's office one day and being told that "It is not our job to say who are the bad guys and the good guys. As long as they comply with the FAR's, they can fly." So, they will not get involved in a carrier's labor relations policies.

Mr. **Oberstar**. Does the FAA ever make any judgment as to whether safety violations or problems reported by mechanics are valid or of concern? Do they respond in any way to reporting of such incidents?

Mr. **Luby**. In the safety sense or labor relations?

Mr. **Oberstar**. Yes, safety. I am talking about safety.

Mr. **Luby**. The FAA?

Mr. **Oberstar**. Yes.

Mr. **Kerrigan**. Not to my knowledge. I have never had any incidents where they have.

Mr. **Oberstar**. Isn't there a rather fine line to distinguish, as you said Mr. Burley did, between reporting an item out of safety concerns and calling that same reporting a labor relations matter?

Mr. **Luby**. I will agree with that. The kind of fine line between safety and economics which the FAA and which the Secretary of Transportation has described so many times is very grey to me, and I think that if you look at the performance of the system over the last few years, the morale of employees and the way they are treated does have a definite impact, and I think anyone who is objective and examines the industry will acknowledge that.

I think that even Mr. Crandall from American has flatly acknowledged that.

Mr. **Oberstar**. Mr. Koziatek, you were going to respond to something earlier, or was that covered?

Mr. **Koziatek**. I think he covered it.

Mr. **Oberstar**. All right.

Isn't there a very important relationship here that you were just touching on, Mr. Luby—and I think I would like to get a response from Mr. Koziatek and Mr. Finley as well—between management and labor? By labor I don't mean the official labor union. What I mean is the relationship of trust between management supervisory personnel and the line operators, those people who are there with the mechanic responsibility or, as we heard in earlier testimony, the relationship between management and the pilots.

If they don't trust your judgment, if they don't have confidence in you to believe that when you are reporting an item you are using your best professional judgment and they override that judgment, eventually, you break down something very important, very essential to the efficient operation of the maintenance function that you are performing.

Mr. **Koziatek**. Well, if I could comment on that, American and the Transport Workers Union has a very unique relationship because we do trust each other. Over the years, we have developed that trust because we find that our mutual interests are for the better operation and the reliability of the aircraft.

Ironically enough, since the white glove inspection—I guess I have to go back to that if I could expand on that. The things that have changed at American, while our maintenance was good at that point, it wasn't as good, obviously, as it should have been. Since then, I know that the word has come down from upper management that maintenance has an open checkbook as far as whatever it needs to operate efficiently as far as tools, equipment, manpower, and American has been hiring mechanics right along.

In Chicago alone, we have hired probably 80 or 90 new mechanics in the past two years. This has been a considerable expansion over what we had previously, and it is not just due to increased schedules.

We are doing considerably more maintenance and also just within the past two months, I viewed a videotape presentation made by a Mr. Bill Cullhane who is the vice president of aircraft maintenance out of Tulsa for American, and he gave us a report on what kind of progress the maintenance department has been making in improving American's reliability and maintenance record. While we are exceeding the short-term goals, the intention is to improve on that as well.

The bottom line in closing was that the reliability, the safety of the aircraft above and beyond schedules. He would uphold that position at any time, and he would trust the mechanic to make a judgment call, and he will back the mechanic.

Mr. **Oberstar**. That is a very commendable attitude. It is the kind of attitude you want to see industry-wide.

Mr. **Kerrigan**. Mr. Chairman, if I could just elaborate on that, because I don't want to give this panel a false impression that, on the one hand, it might look a little contradictory. In my statement, I called for regulations to protect employees from intimidation and reprisals from the employer. On the other hand, I tell you the two primary maintenance employers we deal with are not doing that.

I can also tell you that has not always been the case. As a matter of fact, I appeared before many panels here in Washington in 1979, 1980, and 1981, and one of the principal complaints we had was American Airlines.

So, we know from experience that this goes through cycles. American was greatly shocked and embarrassed with the maintenance fines that took place at American Airlines. What has taken place today had a lot to do with that inspection and in those fines.

I can tell you that they are doing an outstanding maintenance job today, but there have been cycles when even they weren't doing that and when we had that type of problems. I am sure they will come back, and that is why we believe we need regulations in those areas.

It goes through cycles, and American in 1981, I would point out, was in a very bad financial situation. People forget because they are doing well financially today. Five or six short years ago, American Airlines was no better off than Pan American Airlines. They are doing better.

So, when you get into the economic crunch, these are the things that happen.

However, going back to the heart of your question, because we are dealing with human nature here, there is absolutely no question if the employer gives that mechanic and demonstrates to the mechanic that they have faith in their ability to do the job without recrimination and have faith in them, they will do the job and do it right. When the employer demonstrates they don't have that faith in them, then you don't have the two way street of cooperation which we are having at the moment, and you will have a bad safety situation.

Mr. **Oberstar**. I appreciate your candor. This subcommittee especially is aware of the past history of American, because we held hearings some years ago under Mr. Mineta's chairmanship on the Chicago incident which was a cruel tragedy. As you said, American certainly has cleaned up its act and has a very commendable record.

One of the questions that came up in the earlier panel is the availability of parts at various stations of the airlines in this hub-and-spoke system that we are talking about. In your opinion, do Pan Am and American maintain adequate inventories of spare parts at points other than their major maintenance bases?

Mr. **Kerrigan**. Well, let me separate them, because the situations at the two airlines are quite different because we have two completely different structures. Pan American Airways is today, as it always has been, primarily an international gateway carrier.

They are primarily operating out of New York, Miami, San Francisco, and Los Angeles which are main maintenance stations and gateways.

They have what we call a domestic feed system, and those flights that feed that domestic system—and it is usually one flight a day from various cities—go into those major gateways every single day. So, we have never had that type of a problem on Pan Am in my 30 years of dealing with them.

However, American Airlines did have a very serious problem on down line stations up to a couple of years ago. In fact, we had many confrontations with the carrier over that issue. Rich and Marion know better the day-to-day operations, but it is my understanding—and I meet with the American presidents each three months for two days and go over all the problems—that does not exist at the present time.

Is that right?

Mr. FINLEY. At the Tulsa base or at the American Airlines where we do not have the facilities or the manpower to keep large quantities of parts, they usually have a pool system where several of the carriers pool together to keep parts on hand. At the Tulsa maintenance base, we have a large supply of spare parts kept there in our warehouse.

Mr. KERRIGAN. I should point out we are watching this American situation, because, as you know, American is under their growth program moving from a carrier with 300-some planes. When they finish their expansion program a few years down the road, they will have a fleet of over 700 aircraft. Of course, there are a lot of growing pains taking place in that airline, and some of these problems could get worse as we go along.

Mr. OBERSTAR. It is a very serious matter maintaining adequate parts for all and very costly, I am sure.

Mr. KERRIGAN. It is, because you just can't anticipate everything at a given station. If you did, the financial end of that is just unthinkable.

Mr. OBERSTAR. Thank you very much. I will withhold further questions until my colleagues have had an opportunity.

The gentleman from Pennsylvania.

Mr. CLINGER. Thank you very much, Mr. Chairman.

I want to commend the panel for some very excellent testimony, some very heartening testimony. I think that you have included in your statements some interesting and constructive recommendations for the committee to consider.

Just to nail down one point which I think bears emphasis, do I understand that at American and presumably also at Pan Am, the maintenance has the final say as to what aircraft is airworthy and what aircraft is not airworthy? Is that accurate?

Mr. FINLEY. At the maintenance, whenever an individual or a mechanic finds an item that he feels is not airworthy, to my knowledge, we do not have any major conflict between management and the individual on the floor. At the Tulsa maintenance base where I happen to be a quality assurance inspector, it is that the inspector usually writes the item up. Then, they get into the discussions whether the items are.

If it is an airworthy item, there is no problem in getting the problem taken care of and corrected.

Mr. **Clinger**. But you do not have Tulsa management personnel looking over your shoulder or who have the authority to countermand your decision?

Mr. **Finley**. We have the engineering department at the Tulsa maintenance center, and if there is a question between production and the quality assurance on whether something is really airworthy or not, engineering usually comes in and takes a look at the item and gives an evaluation of it.

Mr. **Clinger**. Okay. The procedure that is now used at American—how long has it been in effect? How long has it been that you have had this kind of autonomy?

Mr. **Finley**. I first made inspector in 1977, and I have had it since then.

Mr. **Clinger**. And the procedure has been the same ever since you started?

Mr. **Finley**. Yes, it has.

Mr. **Kerrigan**. I don't think it is so much a question of procedures. They have been pretty constant. At periods of time, they may not have followed the procedures as they should have or, as Marion says he is at a main maintenance base, a big problem that we had for a number of years was that at many of the lesser stations, they did not station mechanics. There some management person who would have designated inspector capabilities would make that determination or maybe the employee who is not an American employee.

They have greatly added to the mechanics at those bases now. And Pan Am, although I guess technically there are management people who could override, I don't know of any case where anyone has actually—either a mechanic or an inspector—disapproved or said something was not airworthy that was overridden.

Of course, you will always have the case where the individual mechanic may have doubts as to whether this should go or not and then goes and consults with either the inspector or the supervisor, and they may convince him it is all right, not in the sense of a threat or anything but because they have maybe a little more knowledge in that particular item or something like that.

However, I don't know of any case where either a mechanic or an inspector that we represent on those carriers or in some of the other smaller ones where we represent them has actually stated this is unsafe and somebody has come and overruled that. I don't know of any incident like that.

Mr. **Clinger**. Well, this morning, we had testimony about the Eastern situation.

Mr. **Kerrigan**. I heard the stories. I am putting it into context. And we may—as a matter of fact, Art Luby and I discussed this at length some time back for earlier hearings we were having, and we went out of our way to make a survey to try to find some incidents in these particular groups, and we weren't able to find them.

Mr. **Clinger**. Well, that is what I wanted to get at.

Mr. **Kerrigan**. It isn't just off the tops of our heads. We actually went out to look for them.

Mr. **Clinger**. That is very interesting.

I think your suggestions on the whistle blower phenomenon and its need, even though in the instances of American and Pan Am, presumably, it is not a current problem.

Mr. **Kerrigan**. But we don't know who the management will be tomorrow.

Mr. **Clinger**. I understand. You suggest that we should have whistle blower protection comparable to what we have in other legislation like the Clean Air Act. In making that suggestion, are you doing this because you sense or have some evidence that employees of airlines are being subjected to penalties.

Mr. **Kerrigan**. We have been told this by employees at other airlines, yes.

Mr. **Clinger**. For raising legitimate safety concerns?

Mr. **Kerrigan**. Yes, that is correct. And there are obviously some airlines where we have experiences that we may not represent the mechanics—you mentioned Eastern Airlines—the mechanics at Eastern are represented by the IAM, but we represent the flight attendants on Eastern Airlines, and we are well aware of the attitude at Eastern Airlines. We represent flight dispatchers and training instructors at Continental Airlines, and we are well aware of the attitude of management on those airlines. So, although we are not directly involved in the maintenance, it is the attitude of the management in many of these airlines towards the employees and towards getting things done for the least cost or any cost that really is creating these problems.

Mr. **Luby**. If I could add to that, I was present last summer when Mr. Onstadt from Texas Air flatly suggested that the FAA should start punishing people for bringing complaints against the carrier, and if there was ever a visage of a man sharpening his axe, there it was. So, he didn't have to paint us a picture. I saw what he had in mind.

Mr. **Clinger**. Well, American presumably recognizes that, even in a highly competitive airline climate, it is in their long-term best interest to give the kind of emphasis to safety and maintenance that it deserves. Hopefully, as a result of these hearings, we can get the message across that it is the enlightened self-interest of the airlines themselves to give this kind of attention to it.

Mr. **Kerrigan**. I would not belabor that, because we have dealt with American Airlines for 40 years as well as Pan Am. Both of them were organized by TWU in 1945.

I don't believe even in the late 1970's or the early 1980's when there were problems it was so much a problem of their disregard of safety. They obviously didn't consciously disregard safety. It is just that they were so caught up in the economic situation that these things stem from it.

Mr. **Finley**. American Airlines management has told each of our mechanics or maintenance people that if they see anything wrong on those aircraft, they want them to document it. If they do any work on that aircraft, regardless of how small it is or how large it is, even if it had not been written up, they want it documented and what repair they did on this item.

So, American has not told us not to document it. They want everything documented.

Mr. **Clinger**. Everything documented.

Mr. **Finley**. Yes.

Mr. **Clinger**. Could either of you two gentlemen, Mr. Finley or Mr. Koziatek, tell us your employer's policy regarding correcting items on the minimum equipment list? Is there any standard for how quickly repairs must be made or what the average time is?

Mr. **Koziatek**. I can't give you the specifics. However, American has endeavored to improve their MEL record, and I think that was testified to by someone else earlier today. It is improved down to .33 percent, I believe it is, and American intends to improve even on that.

Now, the biggest factor which was addressed earlier was the availability of parts to correct any kind of a discrepancy. Of course, and MEL is a considerably more serious item than perhaps a few loose screws or a small component that is a redundant item in an aircraft system.

However, American has very much stressed the factor of getting parts to the station to the extent that even though we may not have maintenance at all of our stations, mechanics are sent on a regular field trip basis daily out of Chicago and they are, I know, out of Tulsa and Dallas to repair aircraft, because after several days, that aircraft has to be repaired. That is American's policy. That aircraft has to go out repaired. There is no question.

And that is quite a bit of expense as well, obviously.

Mr. **Clinger**. Earlier this year, one of the regional offices had a directive that said that if an aircraft that had an item on the minimum equipment list which was not dealt with within four days, that plane was to be taken out of service. Is that an unreasonable kind of requirement, to put on an absolute cap?

Mr. **Koziatek**. Absolutely not, not in my estimation.

Mr. **Finley**. That is American Airlines' policy today also.

Mr. **Clinger**. It is?

Mr. **Finley**. Yes.

Mr. **Clinger**. Four days?

Mr. **Finley**. Four days is what they say that they need to get that item repaired.

Mr. **Clinger**. And that pretty much is a hard and fast rule? In other words, you stick to that?

Mr. **Koziatek**. It is a fixed rule to my knowledge. It is the rule that we follow.

Mr. **Clinger**. Are you aware if you are unique in that respect, or are there other airlines that have a day when they would take it out of service?

Mr. **Koziatek**. I really couldn't speak for other airlines. I don't know.

Mr. **Clinger**. Thank you very much, Mr. Chairman.

Mr. **Oberstar**. The Chair recognizes the gentleman from Illinois, Mr. Gray.

Mr. **Gray**. Thank you very much, Mr. Chairman.

First, I want to apologize for my tardiness. I have been doing duty over in the Speaker's chair and just got back and looked over the statement of the Transport Workers. As a former fixed-base operator, I can tell you they are on target on most of their recommendations.

In fact, Mr. Chairman, if I could be a little personal, I will tell you that I almost missed four important votes today because of maintenance problems. I live 707 air miles from Washington. I got up at 5:00 this morning to catch a 6:00 flight from Marion, Illinois to St. Louis only to find out that both TWA flights about an hour apart out of St. Louis to Washington had been cancelled because of maintenance problems.

I got on the telephone and finally found out that I could go on Northwest from Marion, Illinois all the way to Memphis, Tennessee, in the opposite direction with an intermediate stop in Missouri along the way at Cape Girardeau, we got into Memphis and only found out that after I arrived there, they had maintenance problems on Northwest Airlines, and it was 1½ hours late.

Later, Mr. Chairman, I found out that there was a part missing on the radar and they had to fly it in from your great State of Minnesota. The parts had to come from Minnesota all the way down to Memphis. That was just this morning.

So, I am about seven and a half hours saddle sore trying to get that 700 miles—I could almost have driven—all because of maintenance. Two outright flights cancelled and the other one 2 hours late, as I said, I went almost to Miami to come back north to get up here in time to vote.

I notice in the testimony here of the Transport Workers Union they say "frequent maintenance deferrals." Here again, I can attest to the fact that as a former fixed-base operator, the FAA does not come around enough. They don't have enough inspectors and, like everybody else, why do it today if we can wait until tomorrow.

So, there are very frequent maintenance deferrals. They lack the proper staffing, parts inventory, parts inventory at hub stations—and I just alluded to that. Here is a major station in Memphis, Tennessee, that didn't even have a part for the weather radar that goes on the nose cone on the front. In a major station like Memphis, they had to fly it in from Minneapolis, Minnesota.

Mr. **Oberstar**. If the gentleman will yield, our next panel will be able to respond to any questions you may have about that.

Mr. **Gray**. Good. I can tell you in many cases, you can't get there from here because of maintenance problems.

So, I want to commend the Chairman for having these hearings. They are certainly very timely.

I have many other testimonies I could give on flying in and out of St. Louis. In the last 15 flights into Lambert Field in St. Louis, I have been delayed a total of 20 hours, and a lot of it has been because of maintenance problems.

Again, I want to commend the Chairman for having these hearings. Certainly, as one member of the committee, I think we need to build a fire under FAA and we certainly need to get on the operators. Ever since deregulation, this thing has been out of control.

Mr. **Oberstar**. I thank the gentleman for that personal observation. Nothing underscores the need for these hearings more than the personal testimony and witness of our colleagues, the gentleman from Illinois who was delayed getting here, the gentleman from Pennsylvania who was delayed getting here early in the day to start the hearings.

The Chair recognizes the gentlewoman from Connecticut.

Mrs. JOHNSON. Thank you very much, Mr. Chairman, and I thank the panel for being with us.

I also congratulate you on developing the relationship that you have developed with American and Pan Am, because I do think the relationship is very important.

However, that is clearly not enough, and I want to pursue with you just a little bit and fairly briefly, because we do have yet another panel, this issue of contracting out.

First of all, is contracting out on an hourly basis for the big carriers versus the small carriers? In other words, are there situations in which a fairly small carrier at a spoke might contract on a per-job basis?

Mr. KERRIGAN. Yes.

Mrs. JOHNSON. If the repairing company constantly found reasons why big repairs had to be done, would it make it more difficult for that repair company to get the job the next time? And is there pressure on the contracting company to work within the constraints of what they believe to be apparently the airline company's parameters for repair at that spoke?

Mr. KERRIGAN. Well, let me say in the case of American or Pan Am, the outgoing maintenance at these line stations only occurs if they have some on-line problem. It is what they call on-call maintenance. They don't usually have a standing contract with somebody to do maintenance at the stations, because they are done at the bases where they have their own mechanics.

But things can go wrong. You get a flat tire or whatever the case may be at a station where you don't, and you have no alternative but to contract out.

In most cases, that is done with another air carrier but not always. It may be a fixed-base operator or whatever the case may be.

The airline which is contracting out the work usually has a maintenance representative of some sort who is supposed to see that that carrier has performed the work to their standards. Of course, at bases where we don't have people, we have no way of knowing for sure what takes place, and I don't know how much control they have over that.

Mrs. JOHNSON. And are the smaller airlines more, in a sense, at the mercy of these small maintenance firms?

Mr. KERRIGAN. Oh, yes, because they don't have the facilities, they don't have the personnel and, of course, when you are dealing with heavy maintenance, that is very restrictive. Some of the older airlines like American and United and Northwest have very large and extensive maintenance bases which they built years ago. I think very few airlines could afford to build such a maintenance facility today.

They are very limited, and that is going to be a serious problem down the line. American, as an example, up until this year, used to contract in a lot of work from other airlines who don't have these facilities such as they have in Tulsa.

Because of their expansion program, they have had to cancel all contracting in work. They are spending many millions of dollars to expand that facility at Tulsa, but even with the expansion, we don't believe they will be able to handle their own maintenance a few years down the line. In fact, we are having many meetings on that.

Here on the East Coast, I would believe Pan American probably has the only facility that is, you could say, under-utilized. They have a tremendous maintenance facility at Kennedy that is about one-third utilized, but this type of maintenance facility is becoming very scarce, and the smaller airlines could never afford to build them or the new airlines, if they should come on the scene, I don't see how they could ever put the facilities in.

That is going to be a serious problem.

Mrs. JOHNSON. If we set clearer standards—at least, I gather from your testimony that two of the things that we could do is to better regulate contracting out and also clarify requirements for frequency of inspection and perhaps site of inspections so that there would be more frequent central points at which aircraft would be fully inspected, and that would give FAA a better hold on the quality of those inspections.

Do I hear you right in suggesting that?

Mr. KERRIGAN. In the contracting out field, very frankly, our greatest fear at the moment which may not be a specific item before this committee, which we stated in our testimony before Congressman Mineta's committee, is the consideration being given by the FAA to allow or to accede to requests from the ATA, the Air Transport Association, in which they have requested to change the FAR's to allow any and all maintenance to be done in foreign countries.

We heard testimony here today and we have heard it time and time again over the years about the inability of the FAA to police what is happening here in the United States. How are they ever going to police what is happening in Mexico or Brazil or Spain or Germany or somewhere else?

While I don't want to belabor it, I especially want to hit on the question of record keeping. There was some discussion this morning. Let me give you an example.

Pan American was, as you know, heavily fined. What were they fined for? There was no real evidence of any real safety problem of the moment and no record that they were sending out unsafe airplanes. They were fined primarily—90 some percent of the fines—because they couldn't produce records. Not that records weren't made, but they weren't kept in a proper way and nobody could find them, so you can't prove that item A has been properly maintained for the last five years.

That is here in the United States. What is going to happen if they could do that work in a foreign country where the FAA doesn't even have a jurisdiction?

This is an area of contracting out that we are very concerned about.

Mrs. JOHNSON. I did note that in your statement and noted that concern but was translating it in my questioning to the situation of the hub-spoke situation which I think does present really the same problem for FAA even though it is domestic.

Mr. KERRIGAN. That is right, and they can't handle that either.

Mrs. **Johnson**. I also noted in your statement that you say American, to its credit, requires aircraft to go through a maintenance base at least every three days. That kind of thing, it seems to me, would be quite easy for the Government to require.

Also, if it were every three days at someplace where we had inspectors, it would bring some greater public oversight to the maintenance system in a manner that is manageable without swinging too far toward re-regulating an industry whose expansion has been dramatic and whose services now to many not only low income individuals but small businesses is the direct result of the deregulation.

So, a number of the concrete things that you said in your testimony were very helpful in terms of focusing how we could encourage FAA to set very specific requirements that would allow them to have a better handle on what is happening. And I think to translate this into the hub-spoke situation as well the international concern is what we are looking for.

Mr. **Kerrigan**. Yes, I think that is an area that really has to be explored.

Mrs. **Johnson**. Thank you.

Mr. **Oberstar**. I would like to return to the contracting out. When American takes in contract work, by whose maintenance manual do they operate, by the American manual or by the manual of the carrier whose aircraft they are taking in? Which manual has been approved by FAA?

Mr. **Finley**. They operate under the manual of the carrier whose aircraft they are working on. If they are doing work for Eastern Airlines, then they use the Eastern manual to do the repair work.

Mr. **Oberstar**. Has there been a situation where you have seen a conflict between what you would consider to be standard or sound maintenance practice and the manual that you are operating under? Have you had any case to look at something and say this is what the manual says? This isn't the way we do it at American. This isn't what is good sound practice in this particular instance, and I am not going to touch that work.

Mr. **Finley**. This is exactly what happened on September 15 of this year when Eastern Airlines had an aircraft land at the Tulsa base.

Mr. **Oberstar**. Well, I didn't know you were going to say that, but since you have raised it, let's pursue that a moment. What occurred when that aircraft arrived, Eastern 216, and tell us what happened and why that aircraft was released?

Mr. **Finley**. That aircraft landed on the evening of September 15 in Tulsa, and it was in stormy conditions. It was raining quite heavily, and there was lightning going on all around the area.

It did land. An agent of Eastern Airlines called the maintenance area at the flight line of American and got hold of a supervisor and said that an Eastern aircraft had come in and landed rather hard and they wanted some mechanics to come over and take a look at it. This was between 9:00 and 10:00 in the evening.

The supervisor sent one of the mechanics over to take a look at the log book to see what was written up in it. He went over, looked to see if there were any blown tires, which there were not. He went up and looked at the log book to see what had been written up, and all that had been written up was that there had been a hard landing due to the weather conditions.

There were a couple PSU's that had dropped and a couple ceiling light panels that had fallen down which he noticed. He went back and called the Miami Tech Center requesting what type of inspection they wanted for this landing. Their information was that it would depend entirely upon what the sink rate was of the aircraft.

They told the Tech that there was no sink rate or reference to the sink rate on the write-up in the log book. They told them if they could not find out what the sink rate was or if the sink rate was a low sink rate that they could do the most lenient inspection, and they told him what chapter of the maintenance manual they could find this under. They asked our people if we had that, which we did have.

So, the mechanic that was involved doing the investigation tried to contact the pilot to find out what the sink rate was or any more information about the aircraft, and he was not able to contact him, but he was able to get hold of the first officer. The first officer told him that he did not know what the sink rate was but that he had been in a lot harder landings.

The mechanic told him that if it was a medium or a high sink rate that there was a heavy inspection that would have to be required. The aircraft would have to be jacked. The gears would have to be run. They would have to get a hoister out there to check the fuselage and do a very thorough inspection of the aircraft.

The first officer told him that he did not believe it was that hard of a landing and that it would not need that type of an inspection.

So, he relayed this back to the supervisor. The two mechanics that came on questioned this because they knew that in our manual, any time there is a reference of a hard landing, we have to do a certain inspection card, a thorough inspection. But they were assured that they had talked to the first officer and to Miami Tech and that all that would be required was a phase 1B inspection of the maintenance manual.

That is what they performed. That is what they signed off in the log book, that they had talked to Miami Tech and that they had performed the phase 1B inspection.

The next morning, the city manager of Eastern Airlines, a Mr. Mars, I believe, came over and requested if our people would sign an airworthiness release allowing that aircraft to go. Due to the inspection that we had performed which was a very minor inspection—and that is checking the tires to make sure no tires have blown, no panels were dislodged, lowered the flaps and checked the flaps to make sure there was no damage there, did a thorough inspection underneath the bottom of the fuselage and the wings—they refused to sign an airworthiness release.

So, Mr. Mars left. We did not hear anything else for a couple of days.

Then, we heard that the aircraft had gone into Kansas City and a mechanic in Kansas City had noticed the wrinkles on top of the fuselage and wanted to do a thorough inspection at that time. Management at Eastern had said that it had already been checked and gave the okay for it to fly on to Chicago.

When it reached Chicago, that is when it was grounded.

American Airlines did not do a thorough check on it. They just did the inspection that they were asked to do, and they signed off exactly what work they performed.

Mr. OBERSTAR. Now, does American have this multi-phase inspection process? That is, if you have a low sink rate, you do the least rigorous inspection or the most lenient inspection and you have some others. Do you have the same type of procedure?

Mr. FINLEY. Any time that we have what the pilot calls a hard landing, regardless of what the sink rate might be, we have a certain inspection that has to be performed, and it is a thorough inspection. That is where the landing gears are checked—

Mr. OBERSTAR. The inspection is therefore not modified by the sink rate?

Mr. FINLEY. No, it is not.

Mr. OBERSTAR. If that aircraft had been an American aircraft and you had had that report of a hard landing—I have the log book page, and it says the aircraft was landed hard due to weather—and you had seen that—and then he said check need to reset O^2 mask and raft panels.

Mr. FINLEY. Which they did do.

Mr. OBERSTAR. That was done. Now, if you have a landing that was hard enough—that must mean that the panels opened and the oxygen masks came down?

Mr. FINLEY. It is not uncommon for the panels to open even on a light landing. They have opened before. You have to go in and restore the oxygen masks. Or a ceiling panel might pop loose and you go up there and restore the ceiling panel or the light panel. That is really not uncommon to happen on any landing.

Mr. OBERSTAR. So, the extent of your inspection at American is dependent on what the pilot reports, not upon what you found where the panels opened and masks came down.

Mr. FINLEY. That is correct.

Mr. OBERSTAR. If he said it is a hard landing, then do you do all those things—jack the aircraft up as you said?

Mr. FINLEY. Yes, sir.

Mr. OBERSTAR. But you were following in this case Eastern's maintenance procedures, not American's.

Mr. FINLEY. That is correct, sir.

Mr. OBERSTAR. So, the damage on the top of the aircraft was not noticed. You said earlier that the co-pilot said it was not that hard of a landing. We don't need this extensive inspection. What influence did that play in your judgment of whether to proceed further?

Mr. FINLEY. Once the Miami Tech said that the inspection that would be required would depend on what the sink rate was and if it was a medium to a high sink rate, then the more intensive inspection would be required. If it was a low sink rate, that the most lenient inspection would be required. So, whenever the mechanics talked to the first officer, that was the first thing that they were wanting to find out, just what the sink rate was. The first officer informed them that it was not an excessive sink rate, that he would estimate it to be in the low range.

So, doing that there, Eastern made the determination of what inspection they wanted performed on their aircraft.

Now, the night that it landed, as I said, it was very rainy, lightning, and we had very poor visibility. The top of the fuselage—the mechanic that was working on the aircraft could not see what the top of the fuselage looked like where they were at.

Mr. **Oberstar**. However, the significant point is that at American, you have no distinction between high and low sink rate as to whether to perform the extensive kind of review of the aircraft that you described earlier.

Mr. **Finley**. None whatsoever. If a pilot says that he has had a hard landing, then we do the extensive check on it.

Mr. **Oberstar**. But that may delay that aircraft for quite some time.

Mr. **Finley**. It very well may, but we still do the extensive check on it.

Mr. **Oberstar**. And that is part of American's procedure and approved by management?

Mr. **Finley**. Yes, sir.

Mr. **Oberstar**. And they pose no objection when an aircraft comes in with a report like this one and you say we have to do an extensive inspection?

Mr. **Finley**. They insist that we follow the manual.

Mr. **Oberstar**. Thank you.

How does a carrier monitor the quality of work done by a contractor? If you are doing maintenance for Eastern, how does Eastern check up on whether you are doing the work in accordance with their maintenance manual and in accordance with the way they want things done?

Mr. **Finley**. I really cannot answer that, sir, how Eastern does it. I know that whenever we have contractors do work on our aircraft, we send individuals out from maintenance training to train the other carriers in exactly what we want done. Usually it is of a minor nature like changing tires, brakes, de-icing. We send people from maintenance training out to show exactly what we want done and how we want our aircraft handled.

The other carriers, I understand, do the same thing.

Mr. **Oberstar**. So, you do have an arrangement where American's work is contracted out and you actually prepare that contractor to do the work in accordance with American's procedures and maintenance manual. Is that correct?

Mr. **Finley**. Yes, sir.

Mr. **Oberstar**. Mr. Koziatek, would you like to elaborate on that? Do you have any further comments?

Mr. **Koziatek**. Yes, I would like to. As Mr. Finley here stated, American does train the contractors that do our work on an on-call basis. I know that as a fact out of Chicago, because we have a maintenance training department out of Chicago, and they are continuously going to outlying stations where we do not have our own support mechanics.

However, I would like to put it in perspective. I think the contracting is done at a very minimal level, number one. Number two, as Mr. Finley mentioned, if there is any in-depth maintenance required, American is notified of the extent of the maintenance required, and American sends out mechanics on a field trip.

If it is an engine change or anything of a major nature at all, American's mechanics from our main stations are flown to that area, and the airplane is on the ground until the repairs are completed.

Mr. **Oberstar**. That is fascinating. Does American have substantial—perhaps you should quantify that. Can you quantify the number of contract stations where American contracts out its maintenance?

Mr. **Koziatek**. No, I really couldn't give you an estimate, sir. I understand that Mr. Dave Kruse who is our vice president of aircraft maintenance for American is scheduled to testify tomorrow. Perhaps he would be the person to whom to address that question.

Mr. **Oberstar**. That is a good point. We will do that.

Mr. **Finley**. The training that is under American Airlines' procedures usually exceeds what the FAA requires on the training or the job procedures of whatever they want done on the aircraft also.

Mr. **Oberstar**. All right. Thank you very much for your candid, straightforward, open remarks and your very helpful insights into the conduct of maintenance.

Mr. **Koziatek**. Mr. Chairman, if I could make one final comment, there was some testimony earlier about the experience level of mechanics, and I would like to point out the fact that American's line station mechanics are required to have the airframe and powerplant certificates from the FAA and, in addition to that, three years of medium to heavy jet aircraft experience before they will hire them for a line station.

Ironically enough, earlier just this month—I think it was October 1—an early retirement package offer was made to the contract group classifications under the TWU-American Airlines agreement, and the offer was made to all classifications except aircraft mechanics. The reason we were told—initially, of course, I had some misgivings about it myself because we represent all of the classifications, and there was a concern on some people's parts, but we did accept the explanation that the experience level of the mechanics could not be diluted by virtue of allowing them early retirement.

So, while other classifications were allowed to retire early, mechanics were not given the offer.

Mr. **Oberstar**. That is fascinating. Do you have differing pay levels and scales within American at different areas of the country for comparable work?

Mr. **Koziatek**. No, we do not.

Mr. **Finley**. No. It is universal. It is all across the board.

Mr. **Kerrigan**. No. Not to belabor it—I know it is late—but the question came up earlier on the hiring of mechanics, not on this panel but a previous one. This, again, is going to be a very serious problem in the few years ahead. Many of the airlines—let me give an example of Pan Am. The average mechanic at Pan Am has over 20 years of experience. With the exception of a small handful of mechanics hired in the last four or five years, they are all in their late 40's, and most of them are in their 50's and 60's.

They will be going out in the next few years. There is going to be within this industry a tremendous shortage of skilled, licensed mechanics.

Pan American has been searching frantically for the past year to hire avionics mechanics. Part of that is due to the low entry rate which they insisted on and got, but a lot of it is due to the fact that these skilled people are just not there, especially in avionics. I know that Pan Am had to turn down a very lucrative contract for aircraft maintenance work involving very heavy metal work, government contracts, because they spent six months trying to hire sufficient mechanics to bring that work in-house which would have been a big financial boost to them and could not take the contract just because they couldn't find them. In the New York area, there was no way at their rates that they could hire mechanics with those skills to do the work.

Finally, I understand—and you might raise it in the next panel or the next few days with management—I understand that the ATA, which is the management association, met for two days last week in Atlantic City, and that was the entire purpose of the meeting, to discuss the crisis that is coming upon the airlines due to a shortage of skilled licensed mechanics.

Mr. **Oberstar**. You are giving us food for thought for the future. That is a subject we have talked about internally in the subcommittee and one I think we will turn to in future hearings.

Thank you very much, gentlemen, for your presentation today.

Mr. **Oberstar**. Our final panel for today is William Scheri, Airline Coordinator, International Association of Machinists and Aerospace Workers. He is accompanied by Mr. John Vela and Mr. Gene Drescher.

If you have additional associates, Mr. Scheri, would you identify the additional participants in the panel?

Mr. **Scheri**. Sure, Mr. Chairman.

To my left is our attorney, John Edmonds, from the law firm of Guerrieri, Edmond, and James. To my left is John Vela, District Lodge 100 representative, a member of our permanent FAA Committee, and a mechanic on Eastern Air Lines. To my extreme right is my assistant and Assistant Airline Coordinator, Frank Celona, who is chairman of our permanent FAA Committee from our international union. Next to him is Gene Drescher who is a lead inspector with Northwest Airlines in Minneapolis, Minnesota. Mr. Drescher is from District Lodge 143 and is a member of the Lodge's permanent FAA committee.

Mr. **Oberstar**. Thank you. Gentlemen, would you please rise?

[Whereupon, the witnesses were sworn in.]

Mr. **Oberstar**. We greatly appreciate your participation in the hearings and look forward to the testimony you are about to present.

TESTIMONY OF WILLIAM SCHERI, AIRLINE COORDINATOR, INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS, ACCOMPANIED BY JOHN EDMOND, PARTNER IN LAW FIRM OF GUERRIERI, EDMOND AND JAMES, JOHN VELA, DISTRICT LODGE 100 REPRESENTATIVE AND EASTERN AIRLINES MECHANIC; FRANK CELONA, ASSISTANT AIRLINE COORDINATOR IAM; AND GENE DRESCHER, LEAD INSPECTOR, NORTHWEST AIRLINES AND FAA COMMITTEE MEMBER

Mr. Scheri. Mr. Chairman and members of the subcommittee, my name is William L. Scheri. I am the Airline Coordinator for the International Association of Machinists and Aerospace Workers, AFL–CIO.

The IAM represents 801,451 members in a variety of industries throughout this nation. We are the largest union in the air transport industry, representing 93,935 employees in virtually every craft and class. As a union intermittently involved in airline maintenance, the IAM welcomes this opportunity to state our position regarding the dangers facing the aviation industry today.

Ten years ago, when regulation to deregulate the air transport industry was before the Congress, the IAM led the opposition to it. We did so for a number of reasons. Prominent among those reasons was our fear that deregulation would lead to cutting corners in maintenance and an increase in safety hazards.

This fear has, unfortunately, come to pass.

Carriers since deregulation have resorted to the economic law of the jungle. In the words of Professor Frederick C. Thayer of the University of Pittsburgh, "The dog-eat-dog competition unleashed by economic deregulation forces many, if not all, the companies to cheat and cut corners in ways that are dangerous to their customers, society at large, and even themselves. The pressures to cut costs are a direct result of the price competitive arena into which the aviation industry has been thrust rather than the service-oriented competitive environment that existed before deregulation." As carriers try to improve the bottom line, they search for areas in which to cut their expenses. Over the past nine years, labor and safety related costs, including training and maintenance inspections, have been the areas most often selected for cost reduction because their impact can be temporarily concealed. Between 1980 and 1984, the carrier money spent for maintenance decreased from 8.85 percent to 7.6 percent of their budgets while the number of flights skyrocketed. One carrier has acknowledged that during a period of 20 percent growth, it increased its maintenance workers by only 7 percent. Perhaps most shocking of all, the period of 1980 to 1984 saw 4300 mechanics furloughed, a decrease representing 12 to 15 percent of the total, while the number of planes in use increased by one-third.

The cost-cutting mania spawned by deregulation has also encouraged carriers to shrink the once wide margin of safety which the industry previously enjoyed. The margin of safety is that factor by which airline regulations exceed the FAA's minimum standards. Under Federal law, the FAA establishes only minimum safety standards, but airlines are required to operate to the highest possible degree of safety. C. O. Miller, former Chief Accident Investigator for the National Transportation Safety Board, has declared that he sees the erosion of the safety margin everywhere, in particular among the new airlines which are only meeting the minimum standards.

Nowhere has the fierce competition under deregulation affected safety more than in the carriers' operation of the hub and spoke system. The hub system is intended to serve more destinations with greater frequency and fewer aircraft. While carriers argue that this is a sound business strategy for the airlines, it has strained carrier maintenance programs beyond safe limits. Reorganization of the hub system has meant fewer mechanics and less servicing for more planes under tighter scheduling. Carriers attempt to maintain a very tight schedule to keep the planes flying out of a central airport. Time spent on repairs is treated as lost money. Mechanics can attempt to report trouble on items affecting airworthiness but are regularly overruled and at times are threatened by management to get the planes in the air on schedule.

This is less likely to happen among carriers the IAM service within, Mr. Chairman, because of the rights guaranteed by our members contracts. Sadly, this is not the case with the new upstart carriers and many of the companies where there are non-union employees who are not protected by a union.

Numerous minor repairs are delayed because of the demand for aircraft usage or economic considerations. Deferral of maintenance has become commonplace in the carriers' fare wars. Last year, the FAA fined Eastern Airlines $9.5 million for many hundreds of violations of maintenance regulations and numerous examples of deferred aircraft maintenance.

The hub system has also meant little or no maintenance or repairs at away-from-hub bases. Because carriers do not man these bases with sufficient maintenance personnel and inventory, equipment which develops defects at spoke airports cannot be properly serviced until it can be returned to the hub. Thus, while the capability is at the hubs, an FAA flight standards manager pointed out last year "there is only so much maintenance you can do in one hour".

Since deregulation, preventive maintenance at either the hubs or the spokes has been virtually nonexistent. Rather than do necessary maintenance, carriers put off maintenance until a part on a jet is actually broken. American Airlines, for instance, changed its long established maintenance inspection procedures four years ago and instructed its mechanics not to inspect aircraft until an actual failure of an aircraft system or component occurs. Preventive maintenance as well as routine repairs and airworthiness questions are all victims of the penny-pinching approach to safety and maintenance taken by air carriers since deregulation.

One final characteristic of the hub system points to a growing danger to the traveling public. The more intensive use of planes in the hub system pushes aircraft tolerance to the limit and beyond. Many aging, ill-maintained aircraft are overworked. Without proper maintenance, this trend will ultimately lead to disaster. Already there are too many old and defective aircraft filling our skies today. The obsession with cost cutting has led to the U.S. air carriers growing increasingly dependent on older planes—see our attachment A—instead of investing in new planes. The mixture of deferred maintenance, cost cutting, and older planes have combined to create a potentially explosive situation.

The *Dallas Morning Star* on November 17, 1985 printed a survey revealing that an increasing number of older aircraft throughout the world were involved in accidents attributed to structural or mechanical failure. Analyzing National Transportation Safety Board records, the News came to some startling conclusions.

In the five years before 1979, when commercial airlines were flying newer aircraft before deregulation took effect, 21.4 percent of the accidents were caused by metal fatigue, failure, or corrosion compared with 38.7 percent from 1979 to 1983. Before deregulation, only 16.6 percent of aircraft involved in accidents caused by metal fatigue had more than 30,000 hours of flying time. After deregulation, 66.7 percent had more than 30,000 hours flying time. That is significant, because 25 percent of pre-deregulation accidents 1974 to 1979 involved aircraft of more than 30,000 hours flying time, whereas five years after deregulation, 41.9 percent of aircraft involved in accidents had more than 30,000 hours flying time.

Before deregulation, inadequate maintenance and inspections were cited as a contributing factor in only 28.5 percent of those accidents. After deregulation, inadequate maintenance and inspections were cited as contributing causes in 35.6 percent of the accidents. These statistics are frightening, since FAA inspectors had displayed "looseness" in the words of a Boeing Company manager in the granting of extensions in the time between heavy maintenance checks.

Beyond the hub and spoke system, deregulation has created a larger market among airlines, particularly new ones, for contract maintenance, which is repair work that is purchased from older, established airlines or at FAA- approved repair stations. We believe that any time you give an operation like maintenance to other companies, you lose the quality control and direct communications between maintenance people, operations people, and pilots. Both Gene Drescher and John Vela, who are with me here today, can attest to the fact that these repair shops are often cut rate, lack proper documentation, have little background knowledge regarding the planes they work on.

However, U.S. carriers do not stop at the American border in pursuit of "bargain basement" contract maintenance rates. The cost cutting environment inspired by deregulation has led to the widespread use of foreign repair stations by U.S. airlines as a money saving feature, a function for which they were never intended. The Air Transport Association's December, 1986 proposal to modify Federal Aviation Regulations Part 145 would permit U.S. carriers to contract for maintenance, repair, and inspection with foreign repair stations whether or not they employed holders of U.S. Airmen's Certificates, known as A&P licenses. Additionally, the proposal would permit foreign manufacturers to perform maintenance and preventive maintenance on aircraft and products manufactured by them without surveillance by the FAA. If adopted, the proposal would go a step beyond domestic contract maintenance by shipping American jobs overseas. This will further jeopardize safety by compromising American maintenance standards, accountability, and record keeping.

Indeed, as Herbert R. McClure, Associate Director of the General Accounting Office stated, "From a safety enforcement standpoint, records are the system." If we entrust the lives of traveling Americans to maintenance facilities poorly supervised by the FAA, our once proud air transport system will quickly become a national disgrace.

The strain on the FAA goes far beyond its inability to monitor maintenance abroad. The FAA has limited resources and manpower and, therefore, must place its trust in the airlines for voluntary compliance.

However, that trust has been repeatedly betrayed by airline management when it cheats or cuts corners for quick profits. It may take the FAA months or years before these violations of regulations are discovered.

In fact, an intensive white glove inspection of more than 300 of the nation's airlines revealed what a government task force called "a high rate" of non-compliance with FAA standards. See our attachment B for further details.

Currently, the FAA is seeking a $572,000 fine against Braniff, Inc. for operational and maintenance deficiencies which require corrections. The FAA's inspection of TWA has revealed log book discrepancies involving maintenance and failures to comply with proper maintenance procedures. Last year, Pan American paid $1.59 million in penalties. Substantial penalties were also assessed against Continental, Alaska Air, and U.S. Air.

Although the FAA should be commended for uncovering these violations, especially since the FAA is spread so thin, the IAM and many critics see airline maintenance as the "ticking time-bomb" of air safety. Since deregulation of the airline industry, there has been as severe shortage of FAA inspectors and a greatly increased work load. Unfortunately, the FAA inspection staff has always been short-handed and has always relied largely on voluntary compliance enforcement with occasional spot checks. It is basically an honor system. Unfortunately, there is not much honor among some of the corporate raiders that now own the airlines. Instead of rising to meet this challenge, the number of FAA air carrier inspectors dropped to a low of 569 in 1983. Although the inspection staff grew to 750 members by the end of 1986, the ratio of approximately 1.6 inspectors per carrier is still far below the 4.17 inspectors per carrier ratio enjoyed in 1977.

There is no question but that deregulation has encouraged easier entry into the airline industry, acquisitions, mergers, and the like. A large number of the newer entrants rapidly go bankrupt. Thus, numerous aircraft change hands every day. This puts tremendous pressure on the FAA because all of these transactions are supposed to be monitored. Airlines large and small increased from 179 in 1979, the first year of deregulation, to 499 by the end of 1983. There have been a number of consolidations and mergers since then, but each change requires more inspection by the FAA. It simply cannot be done at the current staffing levels.

This committee should know that a number of airlines, including Eastern and Northwest, have put their mechanics under enormous pressure to work fast on the ground so that planes can spend more time in the air earning money. Mr. Vela and Mr. Drescher sitting with me today can strongly testify to this.

At Eastern, foremen are encouraged to defer maintenance because they get bonuses for getting planes out of the hanger faster. Bonuses are paid for fewer departure time delays caused by repairs, loading, and cleaning. It is tragic that John King, a 12-year veteran mechanic at Eastern's Logan Airport maintenance base was fired when he went public with complaints he had made to the FAA. He complained of normal equipment installation tests being skipped to free a plane for service. Eastern management signed a work sheet indicating that the tests had been performed when, in fact, they had not been. Mr. King brought numerous other violations to the attention of the FAA.

Not only was Mr. King fired, but another 20-year veteran mechanic, Gilbert Butler, was suspended for speaking to U.S. News and World Report pending an investigation regarding these same matters. This is typical of how the carriers treat mechanics who attempt to report maintenance violations. It is also a matter of record that a spot check by FAA inspectors of Eastern's maintenance shop in Boston on July 30 caused Eastern to cancel one flight and delay three others to fix problems noted by FAA inspectors.

Eastern Airlines was also cited by the FAA for permitting a Boeing 727 with "major damage" in its fuselage to make two flights after the damage was discovered. The aircraft hit nose first or what you call a hard landing instead of wheels first in Tulsa, Oklahoma. The pilot reported a rough landing, but an American Airlines maintenance crew, following discussions with Eastern in Miami, cleared the plane to fly to Kansas City the next morning. Eastern then cleared it for a flight from Kansas City. The plane was finally grounded in Chicago by the FAA.

The hard landing in Tulsa had snapped support devices along the plane's hull. Three circular supports inside the hull were also broken. Wrinkles as long as 7 feet were found in the plane's skin. One IAM mechanic in Kansas City, Donnie Rice, a man with 19 years of experience, warned management that he had never observed wrinkles like those found on the top of the fuselage. The IAM lead mechanic on the scene in Kansas City, Charles Butler, believed the damage so serious that he asked Control to stop boarding the aircraft. Management brushed our mechanics' alarm aside, dismissing the matter as a closed book. See our attachment C. Those 70 passengers who flew on a damaged plane to Kansas City from Tulsa and 85 passengers from Kansas City to Chicago never knew the danger they were facing.

In conclusion, Mr. Chairman, we are truly dealing with a maintenance time bomb. Deregulation of the airline industry has reintroduced the law of the jungle. The new obsession with cost cutting has resulted in the reduction and deferral of maintenance. We of the IAM strenuously urge the Congress to disarm the ticking safety time bomb before it is too late. We urge stronger regulation, not simply because our jobs are at stake, but even more importantly, because our family members and our friends fly in these aircraft. Until today, the courage displayed by IAM members in standing up for proper maintenance as well as the superior quality of planes built by Boeing and the other aircraft manufacturers have helped American aviation avert a number of tragedies. Now is the time for Congress to take definite action aimed at correcting the current situation.

The IAM urges greater FAA surveillance. FAA inspectors should be given a high profile and be assigned to the second and third shifts because of the abundance of maintenance that is being performed on these odd shifts. There is an urgent need for more maintenance inspectors. The FAA should require thorough flight walk-arounds before each and every flight by an A&P-licensed mechanic. There must also be greater FAA scrutiny of company maintenance plans which, because of the press of other duties, the FAA has, in some cases, rubber stamped. Maintenance should be done at line stations as needed and under less hectic circumstances. We urge the Congress to oppose any attempts to expand the use of subcontracting maintenance, especially with regard to foreign repair stations. Finally, in the name of safety and service, we endorse the passage of legislative measures aimed at re-regulation of the airline industry.

I might add, Mr. Chairman, that you asked an earlier question if any of our members were ever reprimanded as a result of phoning in an FAA violation. Several weeks ago, I would have said no, but I have a piece of correspondence in front of me dated September 18, 1987 addressed to one of our mechanics, J.L. McNary, an Eastern Airline mechanic. At the time of the incident, he was working in the Seattle, Washington station, and he advised his fellow mechanics at that station that if there were any violations by Eastern Airlines of the FAR's to phone them in. They followed his instructions.

Mr. McNary returned to work in Kansas City and, on September 18, 1987—he was a lead mechanic in Kansas City—he was reprimanded. Management referred back to the February 1987 incident about his advising the Seattle Eastern Airline mechanics on the use of the hot line. He was given a 10-day suspension.

Right now, he is in a termination category at Eastern Airlines. His termination has to do with another problem. I am quite sure we are going to win his case.

However, I want to point that out to you, because I told Mr. Mineta when I testified before him on July 28 that the hot line system was working and we had no people reprimanded.

I would also like to point out that the hot line is only in operation from 7:00 a.m., to 3:00 p.m. each day. As you well know, Mr. Chairman, the airlines operate on a 7-day basis, 24 hours a day. I know you have a lot of clout within Congress. We would like to see the hotline open 24 hours a day, 7 days a week for violations to be phoned in by our membership.

I think I will hold at this point for any questions addressed to myself or my two experts, one from Eastern and one from Northwest.

[The prepared statement of Mr. Scheri follows:]

STATEMENT

OF

WILLIAM L. SCHERI

AIRLINE COORDINATOR

INTERNATIONAL ASSOCIATION OF

MACHINISTS AND AEROSPACE WORKERS

BEFORE THE

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

OF THE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

U.S. HOUSE OF REPRESENTATIVES

ON

OCTOBER 20, 1987

STATEMENT OF WILLIAM L. SCHERI
INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS
BEFORE THE SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT
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UNITED STATES HOUSE OF REPRESENTATIVES
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Mr. Chairman and Members of the Subcommittee:

My name is William L. Scheri. I am the Airline Coordinator for the International Association of Machinists and Aerospace Workers ("IAM"). The IAM represents 801,451 members in a variety of industries throughout this nation. We are the largest union in the air transport industry, representing 93,935 employees in virtually every craft and class. As a union intimately involved in airline maintenance, the IAM welcomes this opportunity to state our position regarding the dangers facing the aviation industry today.

Ten years ago, when legislation to deregulate the air transport industry was before the Congress, the IAM led the opposition to it. We did so for a number of reasons. Prominent among these reasons was our fear that deregulation would lead to cutting corners in maintenance and an increase in safety hazards. This fear has, unfortunately, come to pass.

Carriers since deregulation have resorted to the economic law of the jungle. In the words of Professor Frederick C. Thayer of the University of Pittsburgh, "the dog-eat-dog competition unleashed by...economic deregulation...forces many if not all companies to cheat and cut corners in ways that are dangerous to their customers, society at large and even themselves." The pressures to cut costs are a direct result of the price-competitive arena into which the aviation industry has been thrust rather than the service-oriented competitive environment that existed before deregulation. As carriers strive to improve the bottom line they search for areas in which to cut their expenses. Over the past nine years, labor and safety-related costs, including training and maintenance inspections, have been the areas most often selected for cost reduction because their impact can be temporarily concealed. Between 1980 and 1984, the carrier money spent for maintenance decreased from 8.85% to 7.6% of their budgets, while the number of flights skyrocketed. One carrier has acknowledged that during a period of 20% growth, it increased its maintenance workers by only 7%. Perhaps most shocking of all, the period 1980-1984 saw 4300 mechanics furloughed (a decrease representing 12-15% of the total) while the number of planes in use increased by 1/3.

The cost-cutting mania spawned by deregulation has also encouraged carriers to shrink the once wide margin of safety which the industry previously enjoyed. The margin of safety is that factor by which airline regulations exceed the FAA's minimum standards. Under federal law, the FAA establishes only minimum safety standards but airlines are required to operate "to the highest possible degree of safety." C.O. Miller, former Chief Accident Investigator for the National Transportation Safety Board, has declared that he sees the erosion of the safety margin everywhere, in particular among the new airlines who are "only meeting the minimum standards."

Nowhere has the fierce competition under deregulation affected safety more than in the carriers' operation of the hub-and-spoke system. The hub system is intended to serve more destinations with greater frequency and fewer aircraft. While carrier's argue that this is sound business strategy for the airlines, it has strained carrier maintenance programs beyond safe limits.

Reorganization into the hub system has meant fewer mechanics and less servicing for more planes under tighter scheduling. Carriers attempt to maintain a very tight schedule to keep the planes flying out of a central airport. Time spent on repairs is treated as lost money. Mechanics (who's decreased number I mentioned earlier) can attempt to report trouble on items impacting airworthiness, but are regularly overruled and at times threatened by management to get the planes in the air on schedule.

Numerous minor repairs are delayed because of the demand for aircraft usage or other economic considerations. Deferral of maintenance has become commonplace in the carriers fare wars. Last year, the FAA fined Eastern Airlines' $9.5 million for many hundreds of violations of maintenance regulations and numerous examples of deferred aircraft maintenance. Though deferred maintenance is common, even a small repair, if ignored, can have serious consequences.

The hub system has also meant little or no maintenance or repairs at away-from-hub bases. Because carriers do not man these bases with sufficient maintenance personnel and inventory, equipment which develops defects at spoke airports cannot be properly serviced until it can be returned to the hub. Thus, while the capability is at the hubs, an FAA Flight Standards Manager, pointed out last year "there is only so much maintenance you can do in an [one] hour."

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One final characteristic of the hub system points to a growing danger to the travelling public. The more intensive use of planes in the hub system pushes aircraft tolerances to the limit and beyond. Many aging ill-maintained aircraft are overworked. Without proper maintenance this trend will ultimately lead to disaster. Already there are too many old and defective aircraft filling our skies today. The obsession with cost-cutting has lead to the U.S. air carriers growing increasingly dependent on older planes (see Attachment A) instead of investing in new planes. The mixture of deferred maintenance, cost cutting and older planes have combined to create a potentially explosive situation.

The Dallas Morning Star, on November 17, 1985, printed a survey revealing that an increasing number of older aircraft throughout the world were involved in accidents attributed to structural or mechanical failure. Analyzing National Transportation Safety Board ("NTSB") records, the News came to some startling conclusions.

In the five years before 1979--when commercial airlines were flying newer aircraft before deregulation took effect--21.4 percent of the accidents were caused by metal fatigue, failure or corrosion, compared with 38.7 percent from 1979 to 1983. Before deregulation, only 16.6 percent of aircraft involved in accidents caused by metal fatigue had more than 30,000 hours flying time. After deregulation, 66.7 percent had more than 30,000 hours flying time. That's significant because 25 percent of pre-deregulation accidents (1974-1979) involved aircraft with more than 30,000 hours flying time, whereas five years after deregulation 41.9 percent of aircraft involved in accidents had more than 30,000 hours flying time.

Before deregulation, inadequate maintenance and inspections were cited as a contributing factor in only 28.5 percent of those accidents. After deregulation, inadequate maintenance and inspections were cited as contributing causes in 35.6 percent of the accidents. With the average age of the world's airline fleet having doubled in age from five to ten in the past sixteen years, statistics such as these cannot be ignored.

Beyond the hub and spoke system, deregulation has created a larger market among airlines, particularly new ones, for contract maintenance, which is repair work that is purchased from older established airlines or at FAA-approved repair stations. We agree with former head of the NTSB, Charles Miller, who believes anytime you give an operation like maintenance to other companies, you lose the quality control and direct communication between maintenance people, operations people, and pilots. Both Gene Drescher and John Vella, who are with me today, can attest to the fact that these repair shops are often cut-rate, lack proper documentation, and have little background knowledge regarding the planes they work on.

However, U.S. carriers do not stop at the American border in pursuit of "bargain basement" contract maintenance rates. The cost-cutting environment inspired by deregulation has led to the wide-spread use of foreign repair stations by U.S. airlines as a money-saving feature, a function for which they were never intended. The Air Transport Association's December 1986 proposal to the FAA to modify Federal Aviation Regulations 145 would permit U.S. carriers to contract for maintenance, repair, alteration and inspection with foreign repair stations whether or not they employed holders of U.S. Airman's Certificates (A & P licenses). Additionally, the proposal would permit foreign manufacturers to perform maintenance and preventive maintenance on aircraft and products manufactured by them without surveillance by the FAA. If adopted, the proposal would go a step beyond domestic contract maintenance by shipping American jobs overseas. This will further jeopardize safety by compromising American maintenance standards accountability and record-keeping.

Indeed, as Herbert R. McLure, Associate Director of the General Accounting Office stated "from a safety enforcement standpoint, records are the system." If we possibly entrust the lives of travelling Americans to the maintenance standards of third world and developing countries, our once proud air transport system will quickly become a National disgrace.

The strain on the FAA goes far beyond its inability to monitor maintenance abroad. The FAA has limited resources and manpower and therefore must place its trust in the airlines for voluntary compliance. However, that trust has been repeatedly betrayed by airline management that decides to cheat or cut corners for quick profits. It may take the FAA months or years before these violations of regulations are discovered. As I previously testified, Eastern Airlines, once a special in depth inspection by the FAA was conducted was fined $9.5 million for 78,372 violations of federal aviation regulations. The maximum penalty could have been $1,000 for each violation or $78,372,000.00.

While Eastern may be the worst offender, an intensive "white glove" inspection of more than 300 of the nation's airlines revealed what a government task force called a "high rate" of non-compliance with FAA standards. (See Attachment B for further details.)

Currently the FAA is seeking a $572,000 fine against Braniff, Inc. for operational and maintenance deficiencies which required corrections. The FAA's inspection of TWA revealed logbook discrepancies involving maintenance and failures in complying with proper maintenance procedures. Last year, Pan American paid $1.95 million in penalties. Substantial penalties were also assessed against Continental, Alaska Air and U.S.Air.

While the FAA should be commended for uncovering these violations, especially since the FAA is spread so thin. The IAM and many critics see airline maintenance as the "ticking timebomb" of air safety. There is a severe shortage of FAA inspectors and a greatly increased workload since deregulation. Unfortunately, the FAA inspection staff has always been shorthanded and has always relied largely on voluntary compliance enforced with occasional spot checks. It is basically an "honor system". Unfortunately, there is not much honor among some of the corporate raiders that now own airlines. Instead of rising to meet this challenge, the number of FAA air carrier inspectors dropped to 569 in 1983. Though the inspection staff has grown to 750 members by 1986, the ratio of approximately 1.6 inspectors per carrier is still far below the 4.17 inspectos per carrier ratio enjoyed in 1977.

The strain on the system is apparent when the South Florida Flight Standards District Office is analyzed. It is responsible for 145 repair stations. It is responsible for monitoring, Eastern Air Lines, a substantial part of Pan American World Airways and more than 60 other airlines including many small "for hire" operators. It is, the FAA says the busiest safety surveillance office in the country. It has an authorized strength of 186 but actually has only half or 93 employees of which 15 are clerical on board.

Those few people were supposed to watch all those airlines and maintenance shops. They also certify numerous small airlines and repair stations. Each new certificate requires approval of training programs, maintenance manuals, management qualifications and equipment. If done at all, it would require an enormous amount of manpower. The FAA's manager of the Southern Region flight standard division admits that, "[t]here is no question that to handle the existing workloads takes away from surveillance."

There is no question but that deregulation has encouraged easier entry into the airline industry, acquisitions, mergers, and the like. A large number of the newer entrants rapidly go bankrupt. Thus, numerous aircraft change hands every day. This puts tremendous pressure on the FAA because all of these transactions are supposed to be monitored. Airlines, large and small, increased from 179 in 1979, the first year of deregulation to 499 by the end of 1983. There have been a number of consolidations and mergers since then, but each change each merger requires more inspection by the FAA. It simply can not be done at current staffing levels.

The intense pressure placed on the undermanned FAA leads to accommodations with the industry which are not in the best interest of the flying public. In a disturbing trend, some FAA Principal Maintenance Inspectors, who must approve any carrier requests to extend the times between heavy maintenance checks, have displayed "looseness," in the words of a Boeing Company manager, in the granting of such extensions. Where does this leave the safety margin for you and I, the consumer?

This committee should know that a number of airlines, including Eastern and Northwest, have put mechanics under enormous pressure from management to work fast on the ground so that planes can spend more time in the air earning money.

It is tragic that John King, a twelve year veteran mechanic at Eastern's Logan Airport maintenance base was fired when he went public with complaints he had made to the FAA. He complained of normal equipment installation tests being skipped to free a plane for service. Management had signed a work sheet indicating that the tests had been performed when they had not been.

In another incident, mechanics spotted and reported a fuel leak in a pylon connected to an engine but the request to repair it was overruled by management. The plane took off and the leak was not recorded in the aircraft's maintenance record.

In still another incident, a loose bolt punctured a hole in a 727's fuel tank which caused a leak. An unauthorized quick hardening plastic sealer was used so the plane could take off. The hole was not correctly repaired with a metal plate until later that week. A supervisor concealed the improper patch job by not recording it in the aircraft's logbook.

At Eastern, foremen are encouraged to defer maintenance because they get bonuses for getting planes out of the hangar faster. Bonuses are paid for fewer departure time delays caused by repairs, loading, cleaning, and the like. While King was fired, another 20 year veteran mechanic, Gilbert Butler, was suspended for speaking to U.S. News and World Report pending an investigation regarding these same matters. This is typical of how the carriers' treat mechanics who attempt to report maintenance violations.

It is also a matter of record that a spot check by FAA inspectors of Eastern's maintenance shop in Boston on July 30 caused Eastern to cancel one flight and delay three others to fix problems noted by FAA inspectors.

Eastern cancelled the flight of a Boeing 727 with a 2-inch crack in the panel covering a pylon that supports a rear engine. Eastern Airlines was also cited by the FAA for permitted a Boeing 727 with "major damage" in its fuselage to make two flights after the damage was discovered. The aircraft made a hard landing and hit nose first instead of wheels first in Tulsa, Oklahoma. The pilot reported the rough landing, but an American Airlines maintenance crew, following discussions with Eastern in Miami, cleared the plane to fly to Kansas City the next morning. Eastern then cleared it for flight from Kansas City. Finally, in Chicago, an Eastern Airlines' maintenance crew grounded it.

The hard landing snapped 14 support devices along the plane's hull. Three circular supports inside the hull were also broken. Wrinkles as long as 7 feet were found in the plane's skin. One IAM mechanic in Kansas City, Donnie Rice, a man with 19 years of experience warned management that he had never observed wrinkles like those found on the top of the fuselage. The IAM lead mechanic on the scene in Kansas City, Charles Butler believed the damage so serious he asked Control to stop boarding the aircraft. Management brushed our mechanics' alarm aside, dismissing the matter as a "closed book." (See Attachment C). Those seventy passengers who flew on the damaged plane to Kansas City from Tulsa and the eighty-five from Kansas City to Chicago never knew the danger they were facing.

A similar incident occurred only four years ago when a Continental 727 flew on five regular passenger flights with wrinkles and other damage to the fuselage after a hard landing at LaGuardia.

CONCLUSION

We are truly dealing with a maintenance time bomb. Deregulation of the airline industry has reintroduced the law of the jungle. The new obsession with cost-cutting has resulted in the reduction and deferral of maintenance. We of the IAM strenuously urge the Congress to disarm the ticking safety time bomb before it is too late. We urge stronger regulation, not simply because our jobs are at stake but even more importantly because our family members, and our friends fly in those aircraft. Until today, the courage displayed by IAM members in standing up for proper maintenance as well as the superior quality of the planes built by Boeing and the other aircraft manufacturers have helped American aviation avert a number of tragedies. Now is the time for Congress to take definite action aimed at correcting the current situation.

The IAM urges greater FAA surveillance. There is an urgent need for more maintenance inspectors. The FAA should require thorough flight "walk-arounds" before each and every flight by a A & P-licensed mechanic. Maintenance should be done at line stations as needed and under less hectic circumstances. FAA inspectors should be given a higher profile and be assigned to the second and third shifts. There must also be greater FAA scrutiny of company maintenance plans which, because of the press of other duties the FAA has in some cases rubber-stamped. We urge the Congress to oppose any attempts to expand the use of subcontracting maintenance, especially with regard to foreign repair stations. Finally, in the name of safety and service, we endorse the passage of legislative measures aimed at the re-regulation of the airline industry.

ATTACHMENT A

FAA Faces Task of Finding Airlines Conducting Improper Maintenance

Washington—The maintenance challenge facing the Federal Aviation Administration is to conduct airline surveillance in a manner that identifies operators who are not in strict compliance with safety regulations, according to a senior FAA official, but he denied that airline deregulation is a causal factor in poor maintenance practices.

Anthony J. Broderick, associate administrator for aviation standards, told the House subcommittee on transportation, aviation and materials, that he disagreed with an assumption that maintenance practices have suffered from an economically deregulated airline environment.

'Management Focus'

"What we have found is that the key element for a sound maintenance operation is not a company's financial success, but rather whether there is a strong management focus on assuring the adequacy of the airline's maintenance system," Broderick said.

He called for strong enforcement action, recalling that prior surveillance of airline maintenance practices was "simply not adequate to meet this challenge, either in terms of level or quality of effort. We have taken strong remedial action to address these deficiencies by increasing inspector staffing and making refinements in our surveillance program."

FAA actions now include:

- National guidelines for minimum levels of inspection activity for each segment of the industry.
- Special in-depth inspections of all operators on a cyclical basis, conducted by teams that evaluate carrier activities in a level of detail not feasible in routine surveillance.
- ational programs established to provide r an overall surveillance program hat more balanced than before, assuring lequate maintenance surveillance over all operators.

'Going Well'

Broderick and other witnesses said the maintenance approach, called Supplemen- l Structural Inspection Documents SSID), is generally going well (AWAST pr 28, p. 41). SSIDs identify all structural components whose failure could af- ct safety of the aircraft, and have now en developed for the Boeing 707, 727, 7 and 747 transports.

"We expect to see SSIDs developed for e [McDonnell Douglas] DC-9-10, DC-9- DC-9-40, DC-9-50 and DC-10, along th the [Lockheed] 1011 within the next o years," Broderick said. "We would anticipate appropriate regulatory action to require compliance with their terms as well." The McDonnell Douglas DC-8 and British Aerospace BAC 111 have SSIDs, which have not yet been established as mandatory by the FAA, he said.

"In terms of the issue of aging aircraft, I believe it is important to note that we are not experiencing a degradation of safety in commercial aviation, and this is not cause for alarm," Broderick said. "Clearly the situation is one that merits attention and continued action on our part."

The subcommittee was warned by James Burnett, member of the National Transportation Safety Board, that SSIDs were not the complete answer to detection of corrosion and crack propagation. He also noted that the FAA has not yet developed a formal program of supplemental inspection for aging aircraft engines.

Burnett said the NTSB in its most recent recommendations has asked the FAA to convene a maintenance review board comprising experts from Pratt & Whitney and maintenance overhaul facilities to review the JT8D-1, which was certificated in 1963 and has severe problems, mainly in failure of second-stage turbine disks.

Another witness, Benjamin A. Cosgrove, Boeing Commercial Airplane Co. vice president, said Boeing has spent $1 million a year over the past decade on evaluation of nondestructive inspection techniques and procedures, training and on-site assistance. He expects this level of funding to continue. Boeing also is developing an improved plan to review the structural condition of selected high-time fleet airplanes, and is updating structural inspection programs to account for new cracking pattern information from fleet service and Boeing test programs.

Operator Intelligence

Periodic review forums also were backed by William W. Hoover, executive vice president-operations and safety for the Air Transport Assn., contending that each airline can benefit from intelligence provided by other operators. He added that the continued safe operation of an aircraft is not limited by chronological age or cumulative flight hours and cycles, citing continuing modifications and refurbishment programs to extend life.

The Douglas DC-3, first flown commercially 50 years ago, is still providing safe transportation as a result of airline maintenance programs, Hoover said. ☐

Staff Survey Sets Pattern On House Maintenance Probe

Washington—Pattern for hearings on aircraft maintenance during a time of aging commercial fleets has been set by a staff analysis for the House subcommittee on transportation, aviation and materials, after a post-deregulation survey of the U. S. airline industry.

The analysis, which was prepared by Curt Stanford, Science and Technology Committee technical consultant, for subcommittee chairman George E. Brown, Jr. (D.-Calif.), stressed that since 1984 the number of scheduled airlines has doubled to nearly 500 carriers, operating about 4,200 aircraft.

During this period alone, the number of U.S. carriers operating large jet transports increased from 39 to 124.

Issues for consideration by the subcommittee include:

- Is the increasing age of aircraft in operation [illegible] for concern?
- What [illegible] about the design life of aircraft?
- [illegible] can be used [illegible]
- Is the Federal Aviation Administration's maintenance monitoring system effective in assuring compliance with aircraft safety standards, and how can the FAA maintenance monitoring system be improved?
- What is the FAA maintenance monitoring strategy for dealing with rapidly expanding and aging aircraft fleets?

The analysis noted that by 1984, 85% of American Airlines' fleet was 10 years old or older; in 1978 only 45% was made up of 10-year plus aircraft.

Stanford said similar increases applied to other airlines: Eastern went from 29% to 40%, Northwest Orient from 20.7% to 70.6%, Ozark from 36% to 89% and Pan American World Airways from 58% to 63%.

The average age for Boeing 727s was 12.16 years, and 8.44 years for the Boeing 737. In the 727 category, more than 80 aircraft are more than 20 years old. Yet, Stanford pointed out, it is not uncommon for a well-maintained aircraft to continue in operation safely for 30-40 [illegible]

ATTACHMENT B

STERN (Cont.)

Borman and his management team. Bryan charged Eastern management had "created a record debt with huge annual interest payments and they have not made the business changes necessary to achieve ✓ profitability." Eastern's Air Line Pilots Association unit told The DAILY it had retained Skadden and Arps, a law firm specializing in company takeovers, "to look at all the options." ALPA said the options included a possible employee buyout — Eastern employees now control about 20% of Eastern's stock, which they received in exchange for past wage-and-benefit concessions. Leaders of the pilots union also have hired Lazard Freres, an investment banking firm, to analyze Eastern's financial condition and to make recommendations.

Bryan, in a bulletin to rank-and-file Machinists union members, asked them to purchase individually as much Eastern stock as they could as part of a program labeled by the union as the "Eastern Evolution." Bryan claimed that management, through its new proposals, "had destroyed the basis of trust and cooperation we have been attempting to build over these past two years." The Eastern Evolution program, he said, was developed after consultations with Eastern's two other major unions, ALPA and the Transport Workers Union, which represents carrier's flight attendants, plus non-unionized employees. Following a meeting of union officials in Atlanta, the Machinists union also released what it termed an open letter from District 100 to Eastern management personnel. It said a key objective of the Eastern Evolution program was "to eliminate the atmosphere of fear and uncertainty."

Eastern's corporate headquarters said it had not received formal notification from the unions about the Eastern Evolution program and their other actions and, therefore, had no immediate comment. In response to queries on what sacrifices were to be made by top management in the drive to reduce labor costs, a spokesman said that Borman, President Joe Leonard and three senior vice presidents had their pay cut 25% effective Jan. 1. On the same date, "45 vice presidents also took 20% pay cuts," the spokesman added. Management also has advised its roughly 15,000 non-union employees that they could anticipate pay cuts "in the neighborhood of 20%," after negotiations with the major unions are resolved.

✓ FAA REPORT CRITICIZES AIRLINE SAFETY EFFORTS

A team of retired FAA inspectors which analyzed last summer's National Air Transportation Inspection Program (NATI) at the request of the agency has concluded that many airlines "permitted established programs to deteriorate as a result of their poor voluntary compliance attitudes and I insufficient FAA surveillance." The report said there was an "apparent decrease in the quality of air carrier management" and an "apparent de-emphasis of FAA legal enforcement action" since deregulation. The report lists carriers by number and seriousness of deviations in what could be taken as a national safety ranking of carriers. An FAA spokesman, however, denied any such intent.

The report says that "some air carriers are not fulfilling their statutory obligations to provide a compliance posture necessary to ensure a high degree of public safety," and that the NATI inspections I "revealed, all too frequently, an inability or lack of motivation of the carriers' managements to exercise appropriate operational control and to ensure the airworthiness of their aircraft." FAA field inspectors, it said, "are not initiating a sufficient number of enforcement actions to ensure that carrier management complies with the FARs."

The report says that since deregulation, circumstances "appear to have combined to create a serious deficiency in the FAA's capability to monitor the health of existing carriers. Certificate III administration and surveillance have both deteriorated in the face of an increased original certification and additional approval workload." It said there is "strong evidence" that the geographical area concept of overseeing carriers "has been ineffective."

Among the carriers the report shows as having a number of "adverse comments" — including some in a zone indicating that "safety of flight was directly or adversely affected" — were American with 100, Arrow with 85, Continental with 149, Delta with 104, Eastern with 119, Pan Am with 106, People Express with 59 and TWA with 75.

The report says that 64, or 21.1%, of the 303 air carriers inspected exceeded a standard set for deviations, representing a "less than desirable overall industry compliance posture." The report in this aspect differs from the official DOT report on NATI, which found 95% of carriers in compliance.

PAN AM yesterday received a $53.5 million contract from the Military Airlift Command

ATTACHMENT C

September 28, 1987

Statement on AC 857 flt. 219

On the morning of Sept. 16 as I was returning from working a flt. I was asked by my lead mechanic to look at the fuselage of AC 857. I observed skin wrinkles on top of the fuselage, forward of the wing above the windows, just forward of the top radio antenna.

I returned to the office and informed the lead mechanic that I felt the aircraft had sustained some damage. The manager stated that the aircraft had a hard landing inspection performed by American Airlines and the item was signed off. I then suggested Tech Services be called to determine what American Airlines had inspected. The manager restated that the aircraft had been inspected by a licensed Airframe and Powerplant Mechanic at American and as far as he was concerned the issue was a closed book, but if anybody wanted to write the item up they could. I then stated that in 19 years as an Aircraft Mechanic I had never observed wrinkles in that area. The manager informed me that he had seen damage in that area before and it was not uncommon. At this point the aircraft had departed the station.

Donnie M. Rice
A&P #1836455
EAL #73749

September 18, 1987

TO WHOM IT MAY CONCERN:

On September 16, 1987, A/C 857 was flown into MCI on Flight #219. I had an in-range call to have a mechanic meet the A/C about a hard landing check the previous night. When the mechanic got to the A/C, there were no log items; but the crew told the mechanic about some damage to the A/C. The mechanic came back into the office and told me about the damage. I then called MIAMT to find out about the damage to the A/C. They told me that they carried no damage report but did know about a hard landing the previous night and that AA had done a hard landing check. I notified my manager, then we went to the A/C together. When I got to the A/C and saw the damage, I immediately called control and told them to stop boarding of the A/C. I then went to the cockpit to get the log book. When I came to the bottom of the A/C jetway, I met the manager and the captain. The manager said that he had talked to the captain and that the A/C had a hard landing check performed in TUL by AA and that they signed off the log book. The captain said that he was comfortable with the A/C and that he would fly it on to ORD and MIA where repairs were to be made. With that, I returned the log book to the A/C and returned to my office.

Charles E. Butler

Charles E. Butler
Lead Mechanic

Mr. **Oberstar**. You can be certain that the matter of the FAA hot line will be raised with the FAA tomorrow when they testify, and I am sure they are hearing it right now. We will proceed with that matter.

I want to thank you very much for an exceptionally well documented and thoroughly presented statement which has been most helpful for the purpose of these hearings on maintenance.

I think, as you know, this subcommittee does not touch and leave an issue. We continue to come back to it. This is only another in a long series of hearings on maintenance, and we will continue to pursue this matter vigorously. We will have a further look at maintenance when the OTA report is presented to this subcommittee and to the other committee that joined us in requesting that.

We are not going to leave this subject. It is going to be pursued vigorously because it is critically important to safety in the skies.

Mr. **Scheri**. We would like to thank you, Mr. Chairman, and the oversight committee for looking into this most important matter.

Mr. **Oberstar**. The Chair would ask unanimous consent to include in the record at this point the inter-office correspondence to which you referred from Eastern Air Lines dated September 18, 1987. I think it is important that the complete document be included in the record, because it focuses on one of these very critical areas of relationship between personnel and management.

[Material supplied by Mr. Scheri follows:]

interoffice correspondence **EASTERN**

TO: Mr. J. L. McNary
ADDRESS: MCIML

FROM: P. J. Anson
ADDRESS: MCIML
EXTENSION: 2351

SUBJECT: Termination
DATE: September 18, 1987

On September 17, 1987 you were the Lead Mechanic responsible for having a cockpit windshield replaced on Aircraft 804 which was scheduled to depart Kansas City at 1829 as Flight 522. When I left the airport at approximately 1700 the windshield replacement had progressed to the point where an on-time departure of Flight 522 was anticipated.

Subsequent to my departure from the airport the ETC on the windshield replacement was changed by you from 1829 to 2015. I arrived at the airport at approximately 1915 to determine why the airplane would not be ready until 2015. My investigation revealed that there were no mechanics working on the windshield replacement when I arrived at the airport. You were questioned as to the whereabouts of the mechanics assigned to Aircraft 804. You were unable to tell me where they were. In addition, the attitude you displayed to me and Shift Manager Byron Turkett showed a lack of concern over the delay of Flight 522.

In February, 1987 you were assessed a ten-day disciplinary suspension for encouraging mechanics in Seattle to report alleged safety or procedural violations by Eastern management to the FAA.

Your actions as Lead Mechanic on September 17, 1987 as described above are a serious violation of various employee rules and regulations. Your failure to properly lead and direct your crew resulted in a significant loss of revenue and additional expense to Eastern and inconvenienced our passengers.

In view of the above your employment with Eastern is terminated effective immediately. You are to turn in to me all Company property in your possession, including but not limited to your I-D badge, pass booklets, Company uniform items and keys.

P.J. Anson

P. J. Anson
Manager, Line Maintenance

cc: Pat Bray MCIOV
District 100-IAMAW
Walt Green MCISR
David Grosse MCILE
Chuck Pecca
C. R. Seymour ATLMD

Mr. **Oberstar**. People who are on the firing line have to be able to have confidence that they can raise issues of concern with management and have management respond. If they don't respond, then the employee ought to be able to go to the FAA and report the matter further. It certainly ought to be taken up first with management. If the response is inadequate or unsympathetic or uninterested, then they ought to take it where their conscience leads them if they think it is a serious enough matter.

Mr. **Scheri**. We agree with you, Mr. Chairman. By we, I am talking about our IAM airframe and powerplant mechanics, I happen to be one. I am a licensed airframe and powerplant mechanic.

We were taught this in school, that if it is not proper and is an airworthiness item, we ground it and so forth as per our discretion. Of course, we have been to the FAA many times to grounding aircraft within this industry because our mechanics felt they were unsafe.

Mr. **Oberstar**. Clearly, if there is excessive reporting of such incidents, it will be apparent. Either the management of the company or the FAA can inquire into such over-reporting, but it strikes me that mechanics and pilots both have an interest in both aspects of this issue, one in keeping aircraft moving because that is the source of their employment and, on the other hand, not flying aircraft that aren't airworthy because of the risks to the traveling public and the risks, of course, in the case of pilots who have to fly that aircraft, to themselves.

There is a very delicate role here of labor-management relations. We explored this briefly with an earlier panel who indicated that there were very good labor-management relations on this matter of maintenance at American Airlines.

If the trust is missing, if management is suspicious of every question raised, of every issue raised, or every maintenance point raised by mechanics or pilots, then I think you have a very serious problem. The mechanics and the pilots both have to be able to know that their professional judgment is going to be respected by management. And management also has to know and count on their employees being responsible, not over-reacting and not under-reacting.

I just wonder if there are cases where you can discuss that matter, where there are good relations and others where those relations are hostile and result in an atmosphere that makes it difficult to conduct your professional work.

Mr. **Scheri**. Mr. Chairman, I would say we have about three carriers whose employees we represent where we have a good relationship in the areas of maintenance, safety and also collective bargaining: United Airlines, U.S. Air, and Piedmont Airlines.

Years ago, we used to have good relationships with most of the carriers we represented except for one or two—and I don't want to get into the names because one of them is in your area in Minnesota where we had the wars. However, overall, things settled down and we set up relationships.

Then came deregulation, and I think that really hurt not only our union but the rest of the unions in the movement. The companies took the attitude that this is our time. We are going to get even, we are going to whip these unions, and we are going to come up and try to bust them. You can see around this country what is happening on a daily basis, including the latest move at the NFL.

They have brought about an attitude whereby we set up partnerships. For example, in Minneapolis with the old Republic Airlines. When they were on the brink of financial trouble, our union sat down with their management, Dan May, a highly respected individual for many years, and the IAM put a wage investment program together. We saved that carrier.

They brought a chief executive officer in, and things were going quite well. We cashed in that wage investment program at the time of Northwest's acquisition of Republic which was last August 12, 1986, and our people divided up $33 million as they went into Northwest.

I can't say the same atmosphere exists on Northwest Airlines following that acquisition. We have all kinds of problems right now with Northwest, from transition agreements right on down and trying to put that merger together.

But, yes, we do have good relations with three carriers and the reasons we have them is that they have responsible management. If you look around this industry, you will see that there are chief executive officers now that are all financial people, and they move in to buy-out a carrier. Such as TWA and Carl Icahn—he brings in all his people from ACF, and the like takes place on carrier-by-carrier.

For your information, there is only one chief executive officer left in this business who was around prior to deregulation, and that is Ed Kolodney of U.S. Air. All the rest came in after deregulation. Most of them are financial people working off Wall Street, and they have no idea, in my opinion, of how to run an airline and get along with employees because they did not come up through the ranks.

Years ago, as you well know, most management people came from our group, from the machinists, and they moved into supervision and into management, and they knew the ins and outs of their respective companies.

I can go on and on, but these are some of the things that we see wrong in this industry, and I think most of them are doing it to stay competitive. You can see what has happened just since 1978 with the rash of mergers and acquisitions and route swaps, takeovers, you name it. It has been worse than I have ever seen in this industry.

You can go back to 1958 to 1978 which is a 20-year period, and you will see there were fewer mergers and acquisitions and takeovers in that period versus 1978 through the end of 1986. You have chaos out there, Mr. Chairman, and our people are moving around like a bunch of gypsies as they put these mergers and acquisitions together.

I heard Congressman Gray earlier and I appreciate what he said, because we tried to predict this in 1977. We bounce around the same way the Congressman does going through these hubs. We are also delayed, too, as union representatives trying to represent our people on that system.

However, that is the way it is right now, and I guess it is a fact of life until Congress turns it around.

Mr. **Oberstar**. Thank you. I appreciate your perspective on it, and I certainly understand the background from which you come to that judgment.

You have said that mechanics regularly are overruled by management on airworthiness items. Is there a pattern of such items on which management overrules the mechanic's judgment?

Mr. **Scheri**. Probably the best individual to answer that one, our expert, is John Vela of Eastern Airlines. I think he does have some examples for you, Mr. Chairman.

Mr. **Oberstar**. Thank you.

Mr. **Vela**. Mr. Chairman, there is a large intimidation factor out there now, and I know you hear a lot of these terms and human factors and all that. I will throw a new one in, intimidation factor.

One of the things that I think this new management at Eastern did is by the firing of John King and the suspension of other mechanics in the system and the suspension of Jeff McNary when he was in Seattle for just giving out the 1-800 number of the FAA hot line created sort of a sacrificial lamb syndrome within it.

They didn't want to cover it up; they wanted it to be known. I can tell you that the day that aircraft 857 came through Kansas City, that night, I got a call from the mechanic who was entered in testimony here, Donnie Rice, who was a member of my crew in Houston prior to the lay-offs that impacted us very heavily in Houston. There were 60 mechanics in Houston before we lost our moonlight operation. There are now 4 of us left. I am the junior man with 25 years with the company.

But I know Donnie Rice, and he called me at home almost emotionally distraught and he said John, I never thought it would have happened to me or to Charlie Butler—and I know Mr. Butler, too. He said we were intimidated right out of our socks today. We let an airplane go that we should have stopped. We should have put our jobs on the line, and we should have made a log entry to stop that airplane right there, because it was so bad—and he said that in his testimony of which you have a copy as an exhibit, his deposition—that we never should have let it go.

But we listened to a new manager and we listened to the acceptance of the flight captain who was on the flight, and we let them talk us right out of doing our job as professional airmen.

That is the one that has been talked about here today with a lot of frequency on almost every panel that has been here since I have been here this afternoon. The other is we had mechanics that were laid off from Houston.

We had good rapport in Houston. Basically, we had no management in Houston. We had a manager and a foreman in charge of aircraft maintenance, and the management at Eastern when I got to Houston in 1973 until the very end—there is no management there now; the lead runs the show—but they always let the leads run the show, and we never had any kind of problem with their trying to override our decisions on this.

But it seems to be in the stations where there is an overabundance of first-line supervision and middle management that we seem to have all the problems. All the complaints I receive as an FAA permanent committee chairman representing my union and my district come from the major stations, the Atlantas, the New Yorks, the Miamis, et cetera.

Mr. **OBERSTAR**. Is that the case in Kansas City? Is that what happened there with Mr. Rice?

Mr. **VELA**. Yes, sir. The lead asked him. He said, "Sir, I think we ought to have a discussion about the damage on the airplane." He said "I told you, it is a closed book. American signed the airworthiness. As far as I am concerned, I have seen wrinkles that severe on an airplane before," and he says "We are letting it go. The captain is willing to accept the airplane, and we are letting it go."

Mr. **OBERSTAR**. Was Mr. Rice told that American signed the airworthiness approval?

Mr. **VELA**. Yes, sir.

Mr. **OBERSTAR**. But we heard testimony earlier that while American signed the log book, they did not sign the airworthiness.

Mr. **VELA**. If they are complying with our procedures, under the Eastern procedures, it is not necessary to sign airworthiness in clearing a maintenance item if you're a licensed mechanic. There was no check pulled on the airplane.

Let's say that had happened at my station and you have a log page in front of you just like I do. He had entered it as a hard landing due to weather. We had accomplished the sink rate per Miami Tech service center to accomplish it for inspection per maintenance manual 5-51-61. It would not have been necessary for me to sign airworthiness.

My signature over here in the accomplished by column and my employee number and my station and, in this case, they put AA for American and that is standard too where if it is another carrier they are supposed to put their initials, that would have been all that was necessary to release the airplane again for airworthiness status.

Mr. **OBERSTAR**. Well, I clearly got the impression from the American mechanics that had the aircraft been inspected under American Airlines maintenance procedures, they would have stopped that aircraft, they would have done a major inspection, they would have reviewed it from stem to stern, and it would not have left Tulsa. It never would have got to Kansas City without that inspection being done.

Mr. **VELA**. That is my understanding, too, sir.

Mr. **OBERSTAR**. But you are saying that the mechanics at Eastern under different procedures, in retrospect, would have done the same. They would have done that major inspection.

Mr. **VELA**. Had they done this inspection, because of the weather and because it was at night and because no one knows because no one ever saw, it is possible that the wrinkles weren't there. The man who testified here from American never said that they went up and visually inspected the fuselage.

Mr. **OBERSTAR**. No, they didn't.

Mr. **VELA**. I can tell you that the mechanics from Eastern in Kansas City—it was quite evident to them, and I have seen the airplane while it was still in Miami. You can see from the window lines up all the way to the Eastern logo. They have reskinned that airplane with 40 inches of brand new skin, and it was from the window line up those wrinkles were visible.

However, again, I am not saying that American had the wrinkles. Who knows? But with the severity of the number of stringers that were cracked and broken, it is possible that when the airplane got airborne again that with the fuselage twisting and the normal loads of in flight operation that that is when the wrinkles appeared.

I don't know, sir. I wasn't in Tulsa.

Mr. **Oberstar**. Well, we won't know, because that inspection was never done at Tulsa.

Mr. **Vela**. Never done.

Mr. **Oberstar**. And management will probably say well, "The aircraft arrived safely so there wasn't any real concern. There was nothing to impair airworthiness of that aircraft."

Mr. **Scheri**. The fact is, Mr. Chairman, when that airplane was grounded by an Eastern Airline mechanic in Chicago, that aircraft was not airworthy. It has structural damage, and FAA grounded it on the spot.

Mr. **Oberstar**. The FAA did, but the management didn't.

Mr. **Scheri**. That is correct, and that is why our mechanic was so right on that; that airplane should never have been released out of Kansas City, but he was overridden by Eastern management.

Mr. **Oberstar**. Why were the mechanics disciplined by Eastern for—perhaps disciplined is not the correct word. They were talked out of taking stronger action.

Mr. **Scheri**. That is correct.

Mr. **Vela**. Mr. Chairman, can I give you a history of Kansas City? Kansas City was opened up as a "test station," so to speak, when they opened Kansas City, and there was a great working-together spirit in Kansas City. The mechanics in Kansas City not only handled aircraft. They handled building maintenance. They handled everything there, GSE equipment, the ground support equipment, everything.

Mr. **Oberstar**. Excuse me, Mr. Vela. We are going to have to interrupt here. The second bells have rung, and I didn't realize that. We are in the midst of a series of votes, and we will have to suspend temporarily and return for that. We will ask you to start from the beginning on that matter.

[Recess taken.]

Mr. **Oberstar**. The subcommittee will resume its sitting.

I again want to apologize for the lateness of the hour. It is just unpredictable the number of votes that the House will schedule in the course of a day. Mr. Scheri, who has had long experience with the legislative process, understands that. For the other witnesses, this is sort the way we live. It is a little like airline schedules with only suggested arrival and departure times.

Mr. Vela, you were about to describe for the subcommittee the start to finish experience at Kansas City and at Tulsa.

Mr. **Vela**. Well, I know that the Chair has the log book page that reflects the landing in Tulsa and American Airlines.

Mr. **Oberstar**. Yes, we have the log book page with the pilots entry about hard landing.

Mr. **Vela**. Okay. Well, subsequently, there has to be a new log book page generated for the flight legs on the 16th. This was the 15th.

When the airplane arrived, and this was the same crew, incidentally, that had landed the airplane, because the employee numbers, 79181 and 62545, on the approved are the same flightcrew. When the airplane got to Kansas City, there was an in-range call from this airplane, from this flight, requesting that maintenance meet the airplane. Obviously, the airplane was flying wrong or something that didn't feel right to the captain.

At that point, the lead mechanic, Charlie Butler, approached the airplane and the captain asked him to take a look, that they had had a hard landing checked the previous night. When the mechanic got to the airplane, there was no log item in the book, but the crew told the mechanic there was some damage to the airplane.

Now, how they knew that, I don't know. The mechanic came back to the office and told the other crew members on his crew to help him look at the airplane to ascertain how much damage there was. That is when Mr. Rice and another mechanic got involved.

At that point, they were going to stop the airplane, and I think you have heard testimony from the ALPA people here that they had stopped boarding of the airplane, and for some reason, the manager and the flight captain on that flight got together and the manager convinced the captain that everything was okay, that American had signed the airworthiness off or that the hard landing check was completed, and there was no damage, and there was no problem.

In Charlie Butler's statement, he says, "When I came to the bottom of the aircraft jetway, I met the manager and the captain. The manager said that he had talked to the captain and that the aircraft had had a hard landing check performed in Tulsa by American Airlines and that they had signed off the log book. The captain said that he was comfortable with the aircraft and that he would fly it on to ORD and to Miami where repairs could be made."

Mr. OBERSTAR. But the pilot had not seen the wrinkles in the skin. He could not have seen that.

Mr. VELA. No.

Mr. OBERSTAR. Because it was in an area where he was not——

Mr. VELA. Unless he went out there physically and looked. Now, whether he did that or not I don't know.

Anyway, the captain and the manager concurred that the airplane was airworthy. The lead mechanic then bowed out but with some question in his mind about it. Then the airplane departed.

Upon arrival in Chicago, it was met by Eastern's maintenance personnel and the mysterious phone call generated to the FAA and the FAA was there. At that point, the airplane was stopped.

At that point, the captain wrote an item in this page that you don't have, 57080-33, and the item was "Aircraft requires two units of right rudder trim to make it fly straight, wings level." The corrective action at that point by maintenance was "Found structural damage at flight station 668. Temporary repair for maintenance ferry to Miami only. Repair approved by Broyard, ORDML," and the gentleman's name which I can't—it looks like Scalapini.

Anyway, Mike Broyard is a structures engineer for Eastern Airlines, and the airplane departed Chicago for Miami unpressurized at a flight level not requiring pressurization. They also pulled the flight data recorder and the cockpit voice recorder which is useless because they had flown over 30 minutes, but the flight data recorder would give some impact as to how severe the landing in Tulsa was.

Mr. **OBERSTAR**. Did you ever get that information?

Mr. **VELA**. No, we did not.

Mr. **OBERSTAR**. A number of things come to mind here. First, in Mr. Rice's statement on Flight 219, aircraft 857—or Flight 216—he stated that "In 19 years as an aircraft mechanic, I had never observed wrinkles in that area. The manager informed me that he had seen damage in that area before and it was not uncommon. At this point, the aircraft had departed the station."

Is that a case of a manager overruling the mechanic, or was that just a conversation?

Mr. **VELA**. I would say that it was relative as to the attitude that management had about the damage on the airplane about the wrinkles.

Mr. **OBERSTAR**. What could have occurred, given the extent of problems, to that aircraft en route?

Mr. **VELA**. Had the airplane encountered severe turbulent weather with the severity of the structural damage that was later determined upon opening the aircraft in Miami, it could have broken up.

Mr. **OBERSTAR**. So, it was sheer luck that it arrived safely in Chicago?

Mr. **VELA**. I would say so, sir.

Mr. **OBERSTAR**. Was the maintenance on that aircraft performed in Chicago or was it flown to another station?

Mr. **VELA**. It was flown to Miami unpressurized with an engineering order to fly it unpressurized for structural repairs and evaluation.

Mr. **OBERSTAR**. Was that a reasonable thing to do? It would seem to me that the pilot would not feel——

Mr. **VELA**. Well, normally, Mr. Chairman, the pilots that ferry airplanes which have damage or repairs that have to be made are engineering pilots, and they are aware of the damage to the airplane or the system that is out on the airplane, and that is what they get paid to do.

Mr. **OBERSTAR**. Was there anything done on a temporary basis to protect that aircraft as it flew from Chicago to Miami?

Mr. **VELA**. I do believe they put some additional metal across that flight station. They say a temporary repair was made, but I don't know what that repair was. I would assume that they probably put some strengtheners across it.

Mr. **OBERSTAR**. A band around the——

Mr. **VELA**. Bands or probably running longitudinally and not around the airplane.

Mr. **OBERSTAR**. I see. So, for the duration of a flight from Tulsa to Kansas City and from Kansas City to Chicago, passengers lives were at risk.

Mr. **VELA**. Very much so.

Mr. **SCHERI**. Mr. Chairman, if I may?

Mr. **OBERSTAR**. Yes, Mr. Scheri.

Mr. **Scheri**. We had a similar one. I don't know if you recall it. We were on strike against Continental Airlines in 1983. The Air Line Pilots Association and the IAM reported an incident on Continental of a Boeing 727. It over-rotated on take off and there was damage to the lower skin area of the fuselage plus the top of the fuselage, what we call the S section on number 2 engine. That was heavy damage.

That airplane went en route to La Guardia Airport, and American Airline ramp control personnel spotted it, because they were higher than the aircraft, and they reported it to Continental maintenance at the time.

For your information, we picked it up from our people up there in La Guardia. We reported it to the FAA, because Continental Airlines flew that Boeing 727 for six revenue flights, and hundreds of people were on that aircraft until it was finally grounded in Denver, Colorado.

The FAA flagged it, grounded it, and then they permitted Continental Airlines to go from Denver to L.A. which was their main maintenance base at the time under a ferry permit. The aircraft was concealed in a locked hanger. NTSB investigated it. The FAA investigated it. The end result was a minor incident.

Our union screamed and so did the Air Line Pilots Association. There were damaged stringers, longitudinal members, and it could have blown up in flight.

These are the actions that we get through FAA. It was pointed out by John Kerrigan, my counterpart from the TWU, you have people like Clark Onstad who used to be Chief Counsel for FAA in the employ of Texas Air Corporation right now. There are 14 other former government officials employed by Texas Air Corporation, and they know these government agencies in and out, and they know the loopholes. God forbid we are going to have a major disaster in this country similar to what we saw a few months ago on Northwest 255 in Detroit.

I am telling you it is important that FAA check these incidents out when they are reported by our union or other labor organizations which are turning the wrenches on these aircraft. I just point that out to you because it was the same type of aircraft approximately four years ago but different airports.

Mr. **Oberstar**. I am familiar with that incident. I am glad you raised that. It is important to have on the record.

Mr. Drescher, how often do you see FAA inspectors at your maintenance stations?

Mr. **Drescher**. Mr. Chairman, FAA inspectors before the merger were fairly visible—merger or acquisition, whatever you wish to call it between Northwest and Republic. The maintenance inspectors with the FAA in Minneapolis are fairly visible and I believe they are getting more of them in that area.

We have really no problems with the FAA or intimidation from the company about talking to FAA. When I say that, I mean none of our members have been disciplined or complained about by management. This sounds a little strange, but let me go back to before the merger.

Before the acquisition of Republic Airlines, Northwest Airlines did not have its house in order as far as maintenance procedures went. At that time, our middle maintenance management decided that IAM lead mechanics and crew chiefs could not run IAM members because they found out we did not intimidate. The company could not intimidate the crew chiefs and lead inspectors and so on, so what Northwest did at that time was to hire a classification of people called junior foremen. Now, the crew chiefs and lead inspectors—well, we still have lead inspectors; that's what I am—the crew chiefs on the average are about 20-year-experience people. These people were around aircraft, they grew up with the Northwest philosophy, which is a pretty brutal way of learning aircraft, but it was a very good way, and Northwest has collected maintenance trophies, records. We never had any problems. We had a lot of labor problems, but we always got the work done properly.

We got some new maintenance management types in there who decided they wanted to change the system, and they said, "Well, we'll get rid of the crew chiefs and we'll put in the junior foreman classification. They can't intimidate us, we'll intimidate the junior foremen."

You go from 20-year-experienced people down to probably two or three years' experience. A lot of them with absolutely no aircraft experience, they'd come out of the shops. And I don't blame these people for taking the jobs because they were at a lower rate of pay. They were real junior people with the company, and it's a great stepping-stone. They went up, so I can see the reasons that they were taking the jobs.

None of the oldtimers like myself or the other crew chiefs would take the jobs because we knew Northwest Airlines, we knew how they treated labor. So they brought in the junior foremen. This did not work, because junior foremen, knowing nothing about the aircraft, would come to us guys and then we had a double job. We had to keep them doing something stupid like signing off writeoffs, but at the same time we're doing that we were training these people. We were training the people that were actually taking our jobs.

So as far as the answer to your question, which pertains to FAA visibility, we have visible FAA. We have good rapport. The International Machinists Union, District 143 in Minneapolis has good rapport with the FAA. Our members are told that if there is a problem, to contact the District Lodge. If it's something glaringly obvious, something real critical, to go ahead and contact the FAA, but otherwise contact the District Lodge, contact me, because we do not want to get into a position where we're crying wolf. A lot of times there are lots of reasons why people aren't happy, but that doesn't necessarily mean that the job isn't getting done properly.

So these junior foremen were the people there who the company could intimidate.

Mr. OBERSTAR. Is that the practice with the junior foremen still in operation, or has the company backed away from that?

Mr. DRESCHER. It is, I believe—you'll have to ask Northwest management tomorrow—but I believe from the rumors and stuff and different jobs, I believe they're trying desperately to get rid of this. It was a personality conflict, again in management. It was a maintenance philosophy that does not work. And I believe they are trying to bring it back to the crew chief or the lead mechanic method of operation.

Mr. SCHERI. Mr. Chairman, could I add something on this?

Mr. OBERSTAR. Yes.

Mr. SCHERI. On aircraft maintenance inspectors as far as their availabilities on our property, I am glad to hear about Northwest. But you take the rest of the industry, we represent just about every carrier—the exceptions being American, Pan Am, and Delta. All the rest are ours under the Machinists banner. It just happens that John Vela testified a few weeks ago before the Presidential Commission. And after that testimony I was out of town and he gave me a call and we got to shooting the breeze about the testimony.

He said, "Hey, Bill," he said, "you started about 30 years ago with me in the industry as an A&P mechanic." He said, "I think all these problems with FAA could be improved," he said, "if they would do one simple thing like they did years ago"— and that was to make visits and become visible in this industry, not just the day shift from 9:00 to 5:00 and go home, because the bulk of the maintenance that is done in this industry is on the evening shifts, afternoons and midnights, heavy checks are performed there, overhauls and so forth.

John mentioned it to me, and it rang a bell. He said, "Remember the days when they used to come into your shop and my shop, two different carriers, and sit you down in the coffee shop and say, 'We've got a problem over here. How's it going over in the heavy check area or overhaul?' and we used to feed in ideas to the FAA?"

They would meet with the company, and they resolved the problem, many times without anything being produced in writing. Many times they would take our information, the mechanics that are turning the wrenches every day, and go back into their quality control departments within that respective airline and change procedures.

Mr. OBERSTAR. I have heard that before. Why aren't they doing that today?

Mr. SCHERI. I think, Mr. Chairman, as we pointed out, I think they've got an abundance of workload brought about by deregulation. That's my opinion. You've got an influx of new aircraft in this industry. You've got more upstart carriers going in and out of business in this industry, and a third more aircraft, and the staff is still not up to par.

In 1987 they're predicting there should be 850 air carrier maintenance inspectors on the payroll of FAA. I was telling Brother Drescher here a few minutes ago before we testified that they probably need triple that amount right now in this industry because of the safety problems. I know Congress has already allotted them money. For some reason it's not moving, the way I hear the stories coming out of Congress. I am telling you the way we see it out on flight lines and in those hangers. They are not there.

Mr. OBERSTAR. That's the reason I asked the question. I want to know what's happening out there in the real world of surveillance of maintenance.

Mr. SCHERI. And let me say this, these carriers know it, too: They know how to cheat and take shortcuts and they know when they're going to be on the scene with inspection teams, and they know well in advance and they try to clean their house up. But many of them are getting caught, as you well know, just two of them this last week, Braniff and TWA. It was in the Washington Post article just a few days ago. And they better clean their act up because I think a lot is in jeopardy in this industry.

Mr. **Oberstar**. That is the purpose of these hearings.

Mr. **Scheri**. I understand.

Mr. **Oberstar**. To see the extent. I appreciate your ardor and spirit on that matter.

I wanted to ask this. You heard the testimony earlier from American about something they called an E–58 form. It seems to me that it's similar to something Eastern calls a supplemental sheet or supplement sheet.

Mr. **Vela**. Yes, sir.

Mr. **Oberstar**. Is this a practice in the industry? Does Northwest have anything like this? Do any other airlines have anything of that nature, a supplement sheet; that is, providing information for the supplement sheet or the E–58 form instead of putting it in the log?

Mr. **Scheri**. I will have to turn that one over to John. I know probably Gene will have a comment, too.

Mr. **Vela**. The maintenance supplement sheet that's used at Eastern is used primarily in areas where airplanes are assigned checks. The reason that's done, Mr. Chairman, is that during the check process, if you find an item that's abnormal, rather than enter it in the logbook and have page after page after page of items in a logbook, you enter it in this maintenance supplement sheet which then becomes a permanent part of the maintenance record of that airplane.

Part of the problem with the maintenance supplement sheet in the past at Eastern has been, let's say, an airplane comes in overnight and has maintenance items to be required in an engine change or something. Then there are some items outstanding left on the supplement sheet. Members of management have mysteriously made the supplement sheets disappear.

Some of the items may not have been airworthiness items. They may have been dirty carpets or seat covers that ar torn or something like that. Some of them have been airworthiness items. The supplement sheets then disappear. When we get in this tit-for-tat type scenario—and obviously we're in that now at Eastern—the mechanics all know that the supplement sheets can disappear, due to past history; now we enter all the items in the logbook.

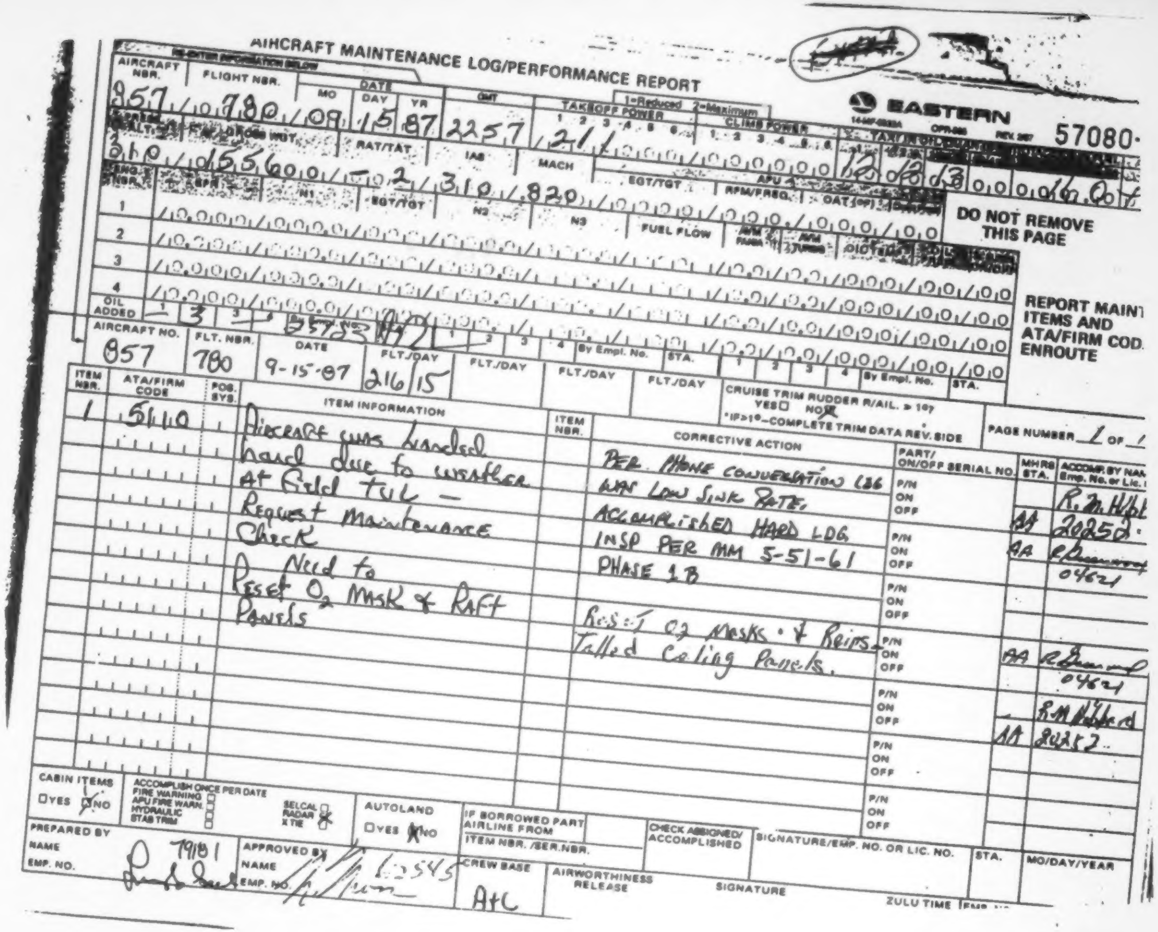
But normally, in a good, solid working maintenance environment, this is the supplement sheet that took place for all the structural repairs for aircraft 857, which is the airplane that we're talking about that happened in Kansas City. These are now a permanent part of the record for aircraft 857 and the log item that generated this structural repair.

We do have supplement sheets, and if they're used right, they're as good as this log page that you say have become a permanent part of the record.

Mr. **Oberstar**. We would like to have a copy of that information, that material right there, to include in the record at this point, as well as the earlier document that you referred to.

Mr. **Scheri**. We will provide you copies, Mr. Chairman.

Mr. **Oberstar**. Thank you. We will include that in the record.
[Information supplied by Mr. Scheri follows:]



AIRCRAFT MAINTENANCE LOG/PERFORMANCE REPORT

EASTERN

57080-

DO NOT REMOVE THIS PAGE

REPORT MAINT ITEMS AND ATA/FIRM COD. ENROUTE

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ALT.	GROSS WGT.	RAT/TAT	IAS	MACH
310	155600	– 2	310	.820

TAXI IN: 12 / 08 / 03 / 0.0 / 0.016.0

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857	780	9-15-87	216 / 15

CRUISE TRIM RUDDER R/AIL. > 1°? YES ☐ NO ☒
*IF>1°—COMPLETE TRIM DATA REV. SIDE

PAGE NUMBER 1 OF 1

ITEM NBR.	ATA/FIRM CODE	ITEM INFORMATION	CORRECTIVE ACTION	MHRS STA.	ACCOMP. BY NAME Emp. No. or Lic. No.
1	5110	Aircraft was landed hard due to weather at field TUL – Request Maintenance Check	PER PHONE CONVERSATION L86 WAS LOW SINK RATE. ACCOMPLISHED HARD LDG INSP PER MM 5-51-61 PHASE 1B	AA	R. M. H[illegible] 20252
2		Need to Reset O2 Mask & Raft Panels	Reset O2 Masks & Reinstalled Ceiling Panels.	AA	R[illegible] 04621
				AA	R[illegible] 04621
				AA	R M [illegible] 20252

CABIN ITEMS ☐ YES ☒ NO

ACCOMPLISH ONCE PER DATE: FIRE WARNING ☐ APU FIRE WARN. ☐ HYDRAULIC ☐ STAB TRIM ☐

SELCAL ☐ RADAR ☒ X TIE ☐

AUTOLAND ☐ YES ☒ NO

PREPARED BY NAME EMP. NO. 79181

APPROVED BY NAME EMP. NO. 62545

CREW BASE ATL

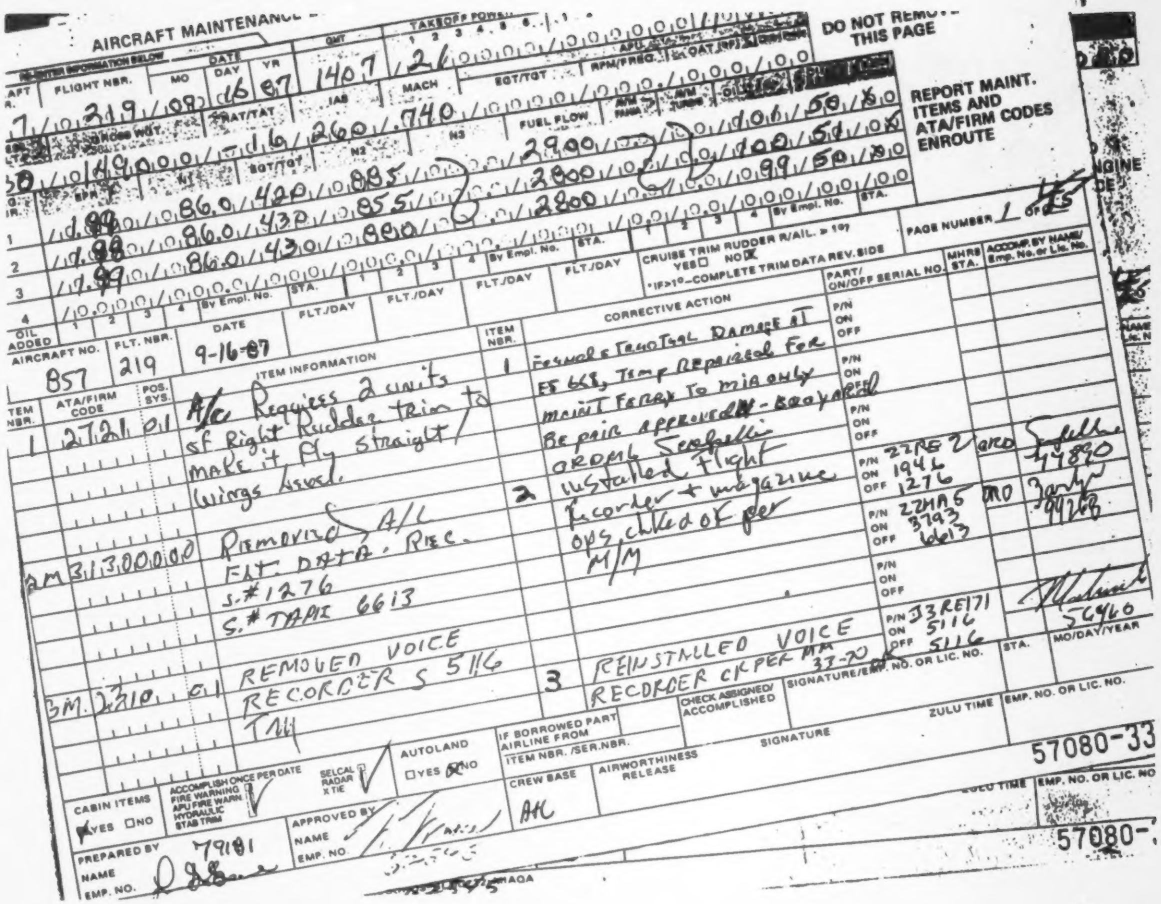
IF BORROWED PART AIRLINE FROM / ITEM NBR. /SER.NBR.

CHECK ASSIGNED/ACCOMPLISHED

AIRWORTHINESS RELEASE

SIGNATURE/EMP. NO. OR LIC. NO. / STA. / MO/DAY/YEAR

SIGNATURE / ZULU TIME



AIRCRAFT MAINTENANCE

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IAS 260 MACH .740 FUEL FLOW 2900

GROSS WGT. 149000 RAT/TAT -16

EPR 1.99 N1 86.0 EGT/TOT 420 N2 885 2800

1 1.98 86.0 430 855 2800

2 1.98 86.0 430 880

3 1.99

CRUISE TRIM RUDDER R/AIL. > 1°? YES☐ NO☒

*IF>1°–COMPLETE TRIM DATA REV. SIDE

PAGE NUMBER 1 OF 5

AIRCRAFT NO.	FLT. NBR.	DATE
857	219	9-16-87

ITEM NBR.	ATA/FIRM CODE	POS. SYS.	ITEM INFORMATION	ITEM NBR.	CORRECTIVE ACTION	PART/ ON/OFF SERIAL NO.	MHRS STA.	ACCOMP. BY NAME/ Emp. No. or Lic. No.
1	2721	01	A/c Requires 2 units of Right Rudder trim to make it fly straight / wings level.	1	Fuselage Structural Damage at FS 668, Temp Repaired for maint Ferry to MIA only - Boeing approved Repair approved. Seafell? ORDML	P/N ON OFF		
	AM 31300000		Removed A/L Flt. Data. Rec. S.#1276 S.# TAPE 6613	2	installed flight recorder + magazine ops chked OK per M/M	P/N 22RE2 ON 1946 OFF 1276 P/N 22MA5 ON 3793 OFF 6613	aro aro	44880 99268
3	M. 2310	01	REMOVED VOICE RECORDER S 5116	3	REINSTALLED VOICE RECORDER CK PER MM 23-70 OK	P/N J3RE171 ON 5116 OFF 5116		56960

SIGNATURE/EMP. NO. OR LIC. NO. STA. MO/DAY/YEAR

CABIN ITEMS ☒ YES ☐ NO

ACCOMPLISH ONCE PER DATE FIRE WARNING APU FIRE WARN HYDRAULIC STAB TRIM ✓

SELCAL RADAR X TIE ✓

AUTOLAND ☐ YES ☒ NO

IF BORROWED PART AIRLINE FROM ITEM NBR. /SER.NBR.

CREW BASE AHC

AIRWORTHINESS RELEASE

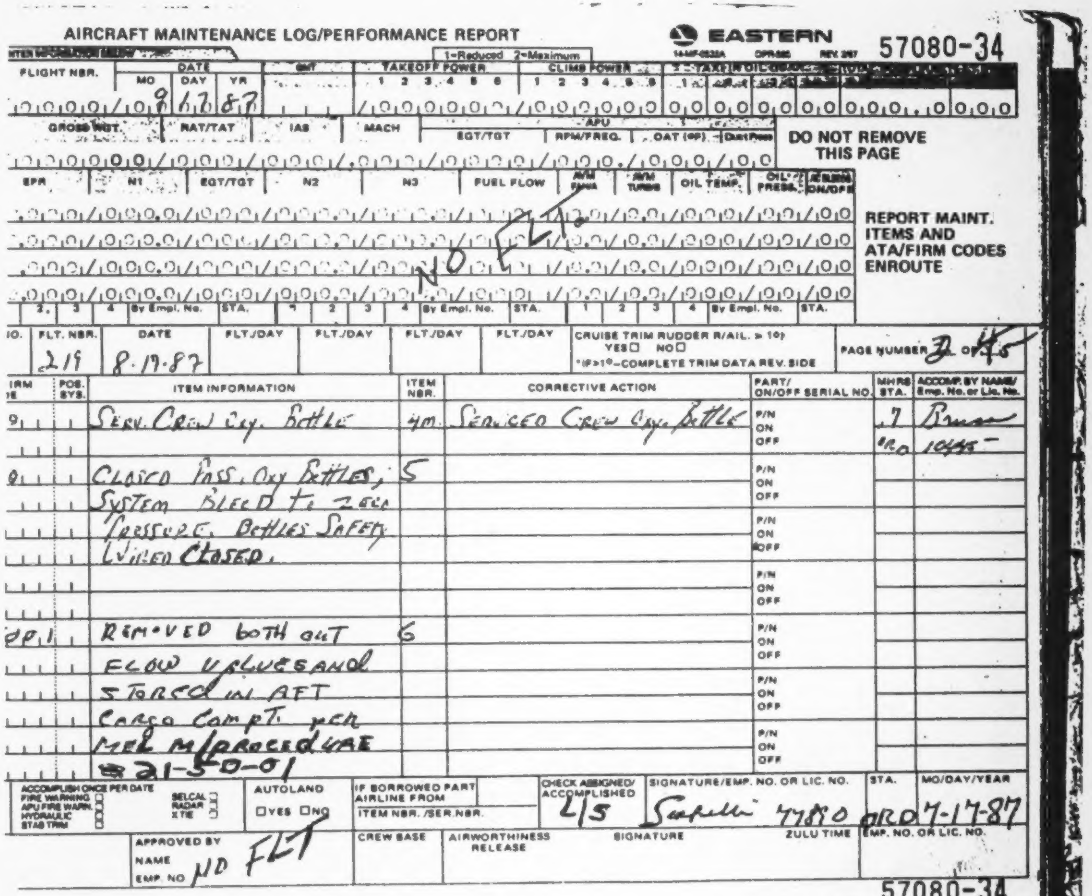
CHECK ASSIGNED/ ACCOMPLISHED

SIGNATURE ZULU TIME EMP. NO. OR LIC. NO.

PREPARED BY NAME EMP. NO. 79181

APPROVED BY NAME EMP. NO.

57080-33



AIRCRAFT MAINTENANCE LOG/PERFORMANCE REPORT

EASTERN

57080-34

1=Reduced 2=Maximum

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GROSS WGT. | RAT/TAT | IAS | MACH | APU EGT/TGT | RPM/FREQ. | OAT (°F)

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EPR | N1 | EGT/TGT | N2 | N3 | FUEL FLOW | OIL TEMP. | OIL PRESS.

REPORT MAINT. ITEMS AND ATA/FIRM CODES ENROUTE

NO FLT

FLT. NBR.	DATE	FLT./DAY	FLT./DAY	FLT./DAY	FLT./DAY	CRUISE TRIM RUDDER R/AIL. > 1°? YES☐ NO☐ *IF>1°—COMPLETE TRIM DATA REV. SIDE	PAGE NUMBER
219	8·19·87						2 OF 45

IRM DE	POS. SYS.	ITEM INFORMATION	ITEM NBR.	CORRECTIVE ACTION	PART/ ON/OFF SERIAL NO.	MHRS STA.	ACCOMP. BY NAME/ Emp. No. or Lic. No.
9		Serv. Crew Oxy. Bottle	4m.	Serviced Crew Oxy. Bottle	P/N ON OFF	.7 ORD	Brun 10445
9		Closed Pass. Oxy Bottles, System Bleed to zero Pressure. Bottles Safety Wired Closed.	5		P/N ON OFF		
22.1		REMOVED both out Flow valves and stored in AFT Cargo Compt. per MEL m/procedure 21-50-01	6		P/N ON OFF		

ACCOMPLISH ONCE PER DATE: FIRE WARNING ☐ APU FIRE WARN. ☐ HYDRAULIC ☐ STAB TRIM ☐ SELCAL ☐ RADAR ☐ XTIE ☐

AUTOLAND ☐YES ☐NO

IF BORROWED PART AIRLINE FROM

ITEM NBR. /SER.NBR.

CHECK ASSIGNED/ACCOMPLISHED: L/5

SIGNATURE/EMP. NO. OR LIC. NO.: Sarelli 47850

STA.: ORD

MO/DAY/YEAR: 7-17-87

APPROVED BY NAME EMP. NO: NO FLT

CREW BASE

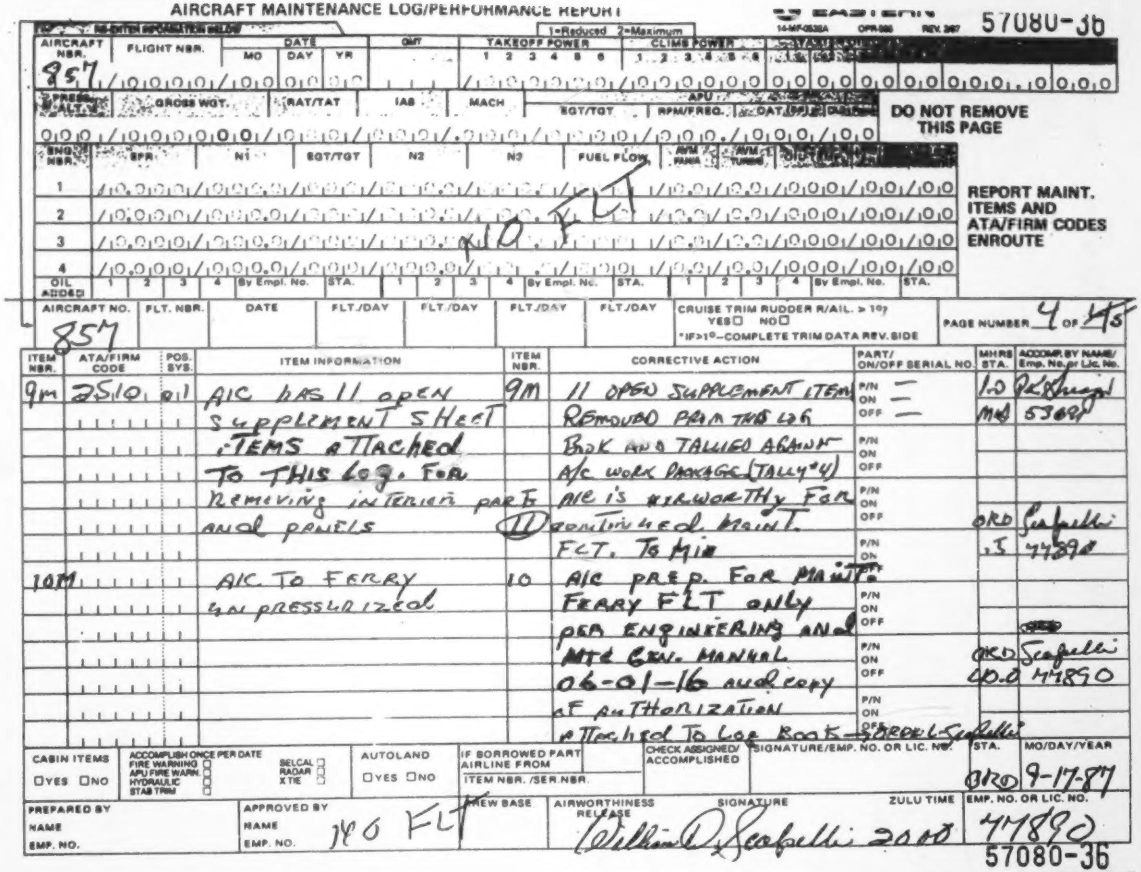
AIRWORTHINESS RELEASE

SIGNATURE

ZULU TIME

EMP. NO. OR LIC. NO.

57080-34



AIRCRAFT MAINTENANCE LOG/PERFORMANCE REPORT

EASTERN 14-MF-0538A OPR-066 REV. 2/87 57080-36

1=Reduced 2=Maximum

AIRCRAFT NBR.	FLIGHT NBR.	DATE MO	DAY	YR	GMT	TAKEOFF POWER 1 2 3 4 5 6	CLIMB POWER 1 2 3 4 5 6
857							

PRESS ALT.	GROSS WGT.	RAT/TAT	IAS	MACH	APU EGT/TGT	RPM/FREQ.	OAT

DO NOT REMOVE THIS PAGE

ENG NBR.	EPR	N1	EGT/TGT	N2	N3	FUEL FLOW	AVM FAN	AVM TURB.
1								
2								
3								
4								

NO FLT

REPORT MAINT. ITEMS AND ATA/FIRM CODES ENROUTE

OIL ADDED	1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.

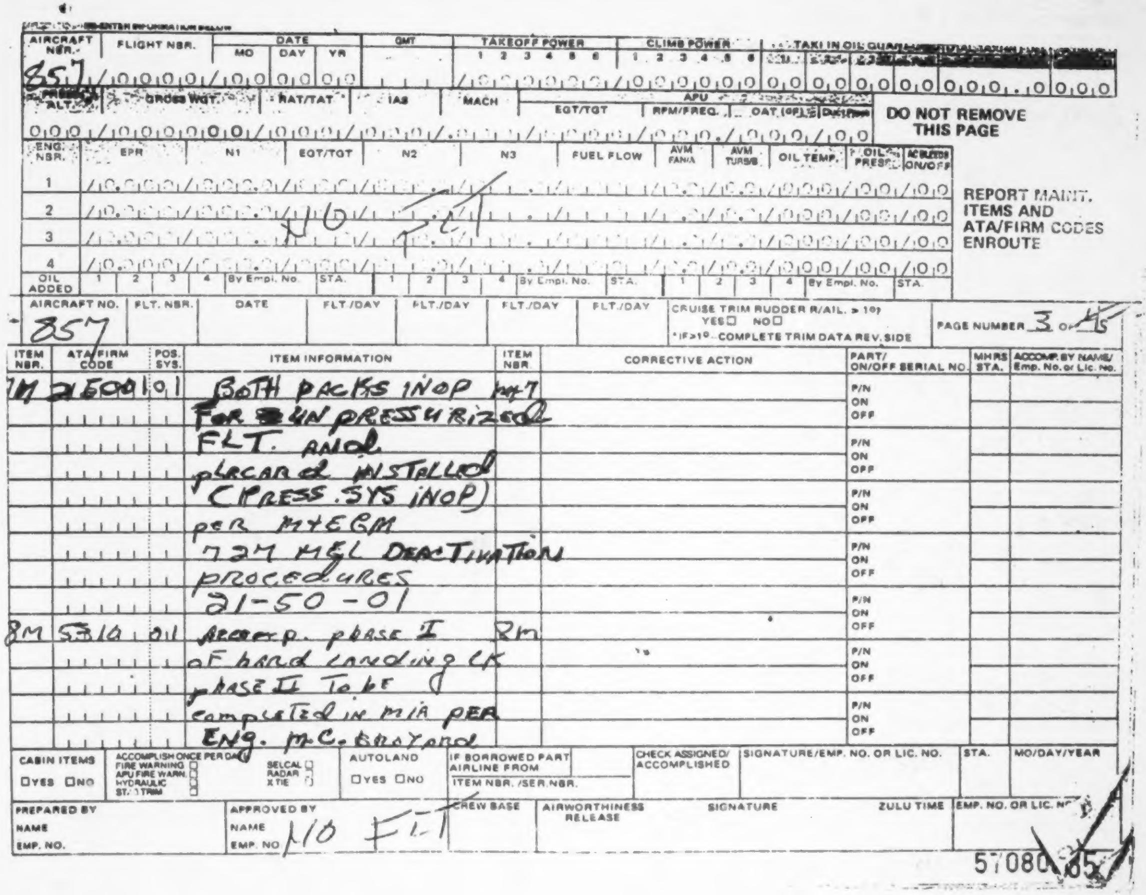
AIRCRAFT NO.	FLT. NBR.	DATE	FLT./DAY	FLT./DAY	FLT./DAY	FLT./DAY	CRUISE TRIM RUDDER R/AIL. > 1°? YES☐ NO☐ *IF>1°–COMPLETE TRIM DATA REV. SIDE	PAGE NUMBER
857								4 OF 45

ITEM NBR.	ATA/FIRM CODE	POS. SYS.	ITEM INFORMATION	ITEM NBR.	CORRECTIVE ACTION	PART/ ON/OFF SERIAL NO.	MHRS STA.	ACCOMP. BY NAME/ Emp. No. or Lic. No.
9m	2510	01	A/C has 11 open	9M	11 OPEN SUPPLEMENT ITEMS	P/N —	1.0	
			supplement sheet		REMOVED FROM THIS LOG	ON — OFF —	MA	53691
			items attached		BOOK AND TALLIED AGAINST	P/N		
			To THIS Log. For		A/C WORK PACKAGE (TALLY #4)	ON OFF		
			Removing interior parts		A/C is airworthy For	P/N ON		
			and panels	⑪	continued Maint.	OFF	ORD	Scarfelli
					FLT. To MIA	P/N ON	.5	44890
10M			A/C To Ferry	10	A/C PREP. FOR MAINT.	OFF		
			unpressurized		FERRY FLT only	P/N ON		
					per ENGINEERING and	OFF		
					MTC GEN. MANUAL	P/N ON	ORD	Scarfelli
					06-01-16 and copy	OFF	40.0	44890
					of AUTHORIZATION	P/N ON		
					attached To Log Book — ORD	OFF		Scarfelli

CABIN ITEMS	ACCOMPLISH ONCE PER DATE		AUTOLAND	IF BORROWED PART AIRLINE FROM	CHECK ASSIGNED/ ACCOMPLISHED	SIGNATURE/EMP. NO. OR LIC. NO.	STA.	MO/DAY/YEAR
☐YES ☐NO	FIRE WARNING ☐ APU FIRE WARN. ☐ HYDRAULIC ☐ STAB TRIM ☐	SELCAL ☐ RADAR ☐ X TIE ☐	☐YES ☐NO	ITEM NBR. /SER. NBR.			ORD	9-17-87

PREPARED BY	APPROVED BY	CREW BASE	AIRWORTHINESS RELEASE	SIGNATURE	ZULU TIME	EMP. NO. OR LIC. NO.
NAME EMP. NO.	NAME EMP. NO. NO FLT			William D. Scarfelli	2000	44890

57080-36



AIRCRAFT NBR.	FLIGHT NBR.	DATE MO	DATE DAY	DATE YR	GMT	TAKEOFF POWER 1 2 3 4 5 6	CLIMB POWER 1 2 3 4 5 6	TAXI IN OIL QUAN
857								

PRESS. ALT.	GROSS WGT.	RAT/TAT	IAS	MACH	APU EGT/TGT	APU RPM/FREQ.	APU OAT (°F)	APU Duct Press

DO NOT REMOVE THIS PAGE

ENG. NBR.	EPR	N1	EGT/TGT	N2	N3	FUEL FLOW	AVM FAN/A	AVM TURB/B	OIL TEMP.	OIL PRESS.	AC BLEEDS ON/OFF
1											
2			NO		FLT						
3											
4											

OIL ADDED	1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.

REPORT MAINT. ITEMS AND ATA/FIRM CODES ENROUTE

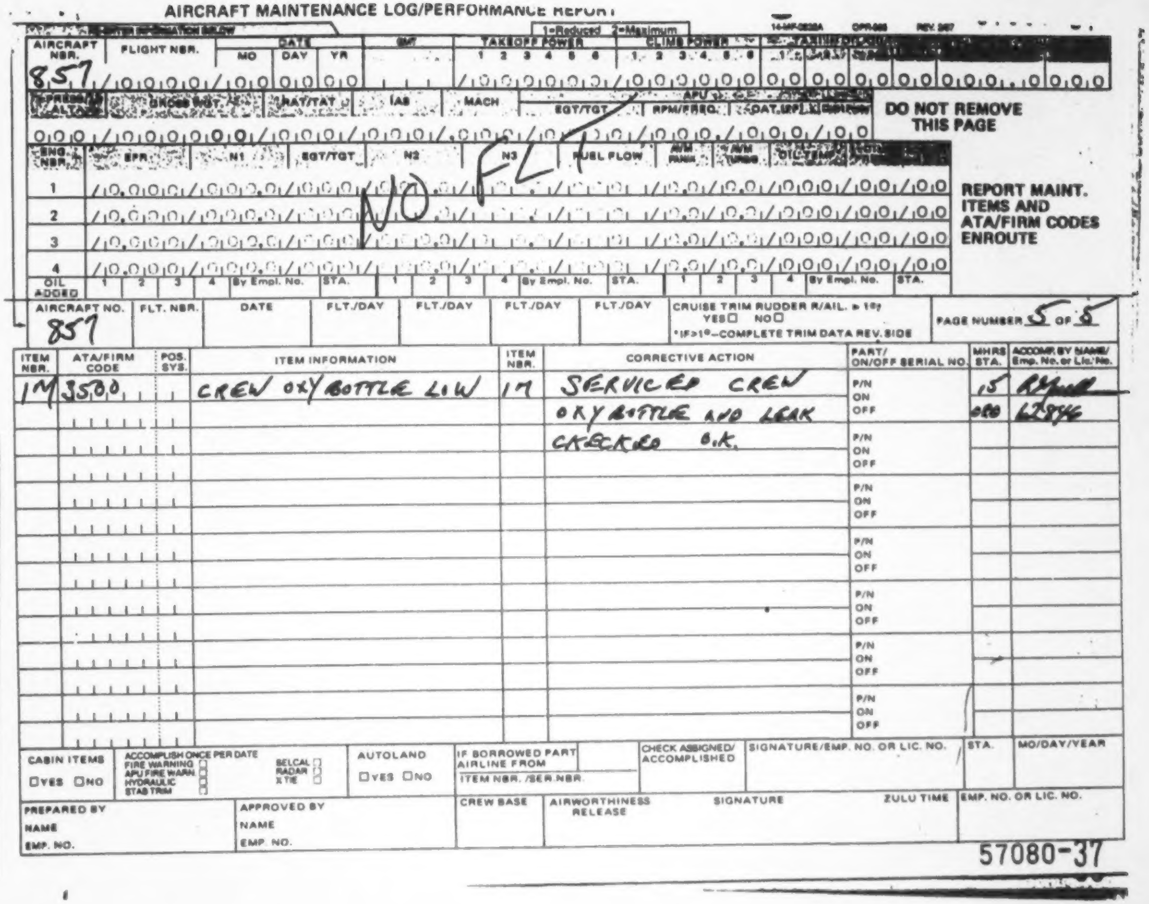
AIRCRAFT NO.	FLT. NBR.	DATE	FLT./DAY	FLT./DAY	FLT./DAY	FLT./DAY	CRUISE TRIM RUDDER R/AIL. > 1°? YES☐ NO☐ *IF>1°, COMPLETE TRIM DATA REV. SIDE	PAGE NUMBER 3 OF 45
857								

ITEM NBR.	ATA/FIRM CODE	POS. SYS.	ITEM INFORMATION	ITEM NBR.	CORRECTIVE ACTION	PART/ ON/OFF SERIAL NO.	MHRS STA.	ACCOMP. BY NAME/ Emp. No. or Lic. No.
7M	21500	01	BOTH PACKS INOP For UNPRESSURIZED FLT. and placard installed (PRESS. SYS iNOP) per M+EGM 727 MEL DEACTIVATION procedures 21-50-01	M7		P/N ON OFF P/N ON OFF P/N ON OFF P/N ON OFF P/N ON OFF		
8M	5310	01	Accomp. phase I of hard landing CK phase II To be completed in MIA per Eng. M.C. Brayand	8M		P/N ON OFF P/N ON OFF		

CABIN ITEMS	ACCOMPLISH ONCE PER DAY		AUTOLAND	IF BORROWED PART AIRLINE FROM	CHECK ASSIGNED/ ACCOMPLISHED	SIGNATURE/EMP. NO. OR LIC. NO.	STA.	MO/DAY/YEAR
☐YES ☐NO	FIRE WARNING ☐ APU FIRE WARN. ☐ HYDRAULIC ☐ ST. TRIM ☐	SELCAL ☐ RADAR ☐ X TIE ☐	☐YES ☐NO	ITEM NBR. /SER.NBR.				

PREPARED BY	APPROVED BY	CREW BASE	AIRWORTHINESS RELEASE	SIGNATURE	ZULU TIME	EMP. NO. OR LIC. NO.
NAME EMP. NO.	NAME EMP. NO NO FLT					

57080 85



AIRCRAFT MAINTENANCE LOG/PERFORMANCE REPORT

14-MF-0020A OPR-005 REV. 267

1=Reduced 2=Maximum

AIRCRAFT NBR.	FLIGHT NBR.	DATE MO	DATE DAY	DATE YR	TAKEOFF POWER 1 2 3 4 5 6	CLIMB POWER 1 2 3 4 5 6
857						

PRESS. ALT.	GROSS WGT.	RAT/TAT	IAS	MACH	APU EGT/TGT	APU RPM/FREQ.	OAT

DO NOT REMOVE THIS PAGE

ENG. NBR.	EPR	N1	EGT/TGT	N2	N3	FUEL FLOW	A/M FAN	A/M TURBO	OIL TEMP
1									
2									
3									
4									

NO FLT

OIL ADDED	1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.

REPORT MAINT. ITEMS AND ATA/FIRM CODES ENROUTE

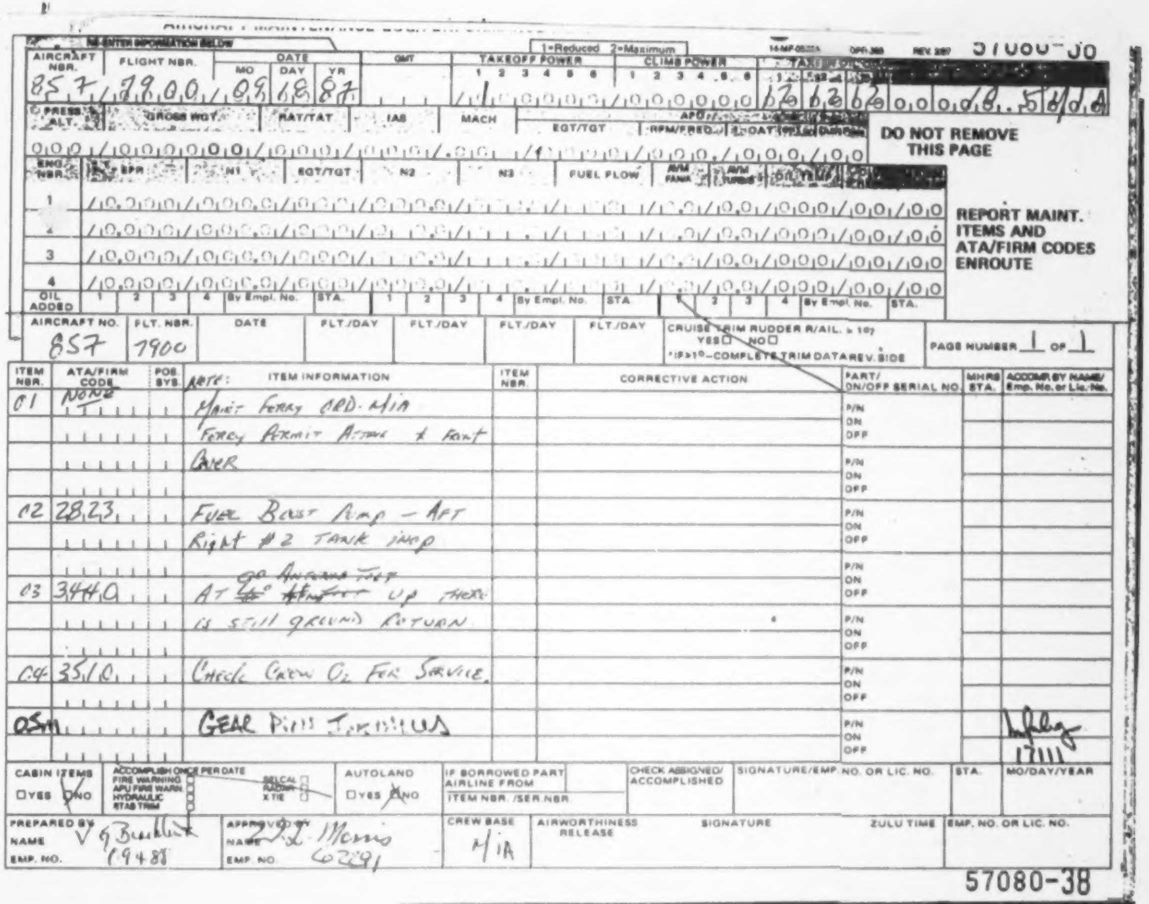
AIRCRAFT NO.	FLT. NBR.	DATE	FLT./DAY	FLT./DAY	FLT./DAY	FLT./DAY	CRUISE TRIM RUDDER R/AIL. ≥ 1°* YES☐ NO☐ *IF>1°—COMPLETE TRIM DATA REV. SIDE	PAGE NUMBER
857								5 OF 5

ITEM NBR.	ATA/FIRM CODE	POS. SYS.	ITEM INFORMATION	ITEM NBR.	CORRECTIVE ACTION	PART/ ON/OFF SERIAL NO.	MHRS STA.	ACCOMP. BY NAME/ Emp. No. or Lic. No.
1M	3500		CREW OXY BOTTLE LOW	1M	SERVICED CREW OXY BOTTLE AND LEAK CHECKED O.K.	P/N ON OFF	.5 ORD	62846
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		

CABIN ITEMS	ACCOMPLISH ONCE PER DATE		AUTOLAND	IF BORROWED PART AIRLINE FROM	CHECK ASSIGNED/ ACCOMPLISHED	SIGNATURE/EMP. NO. OR LIC. NO.	STA.	MO/DAY/YEAR
☐YES ☐NO	FIRE WARNING ☐ APU FIRE WARN ☐ HYDRAULIC ☐ STAB TRIM ☐	SELCAL ☐ RADAR ☐ XTIE ☐	☐YES ☐NO	ITEM NBR. /SER. NBR.				

PREPARED BY	APPROVED BY	CREW BASE	AIRWORTHINESS RELEASE	SIGNATURE	ZULU TIME	EMP. NO. OR LIC. NO.
NAME EMP. NO.	NAME EMP. NO.					

57080-37



RE-ENTER INFORMATION BELOW

1=Reduced 2=Maximum

14-MF-0523A OPR-360 REV. 2/87 57080-38

AIRCRAFT NBR.	FLIGHT NBR.	DATE MO	DATE DAY	DATE YR	GMT	TAKEOFF POWER 1 2 3 4 5 6	CLIMB POWER 1 2 3 4 5 6	TAXI
857	7900	09	18	87		1	0.0.0.0.0	62 62 62 0.0 0.08.5 4 0 0

PRESS. ALT. / GROSS WGT. / RAT/TAT / IAS / MACH / APU EGT/TGT / RPM/FREQ. / OAT

0.0.0 / 0.0.0.0.0.0 / 0.0.0 / 0.0.0 / .0.0 / 0.0.0 / 0.0.0 / 0.0.0 / 0.0

DO NOT REMOVE THIS PAGE

ENG. NBR.	EPR	N1	EGT/TGT	N2	N3	FUEL FLOW	A/M FAN	A/M TURB	OIL TEMP	
1	0.0000	0000.0	0000	0000.0	[illegible]	[illegible]	.0	0.0	0.0.0	0.0 / 0.0
2	0.0000	0000.0	0000	0000.0	[illegible]	[illegible]	.0	0.0	0.0.0	0.0 / 0.0
3	0.0000	0000.0	0000	[illegible]	[illegible]	[illegible]	.0	0.0	0.0.0	0.0 / 0.0
4	0.0000	0000.0	0000	0000.0	[illegible]	[illegible]	.0	0.0	0.0.0	0.0 / 0.0

OIL ADDED 1 2 3 4 By Empl. No. STA. 1 2 3 4 By Empl. No. STA 1 2 3 4 By Empl. No. STA.

REPORT MAINT. ITEMS AND ATA/FIRM CODES ENROUTE

AIRCRAFT NO.	FLT. NBR.	DATE	FLT./DAY	FLT./DAY	FLT./DAY	FLT./DAY
857	7900					

CRUISE TRIM RUDDER R/AIL. > 1°? YES☐ NO☐

*IF>1°—COMPLETE TRIM DATA REV. SIDE

PAGE NUMBER 1 OF 1

ITEM NBR.	ATA/FIRM CODE	POS. SYS.	NOTE: ITEM INFORMATION	ITEM NBR.	CORRECTIVE ACTION	PART/ ON/OFF SERIAL NO.	MHRS STA.	ACCOMP. BY NAME/ Emp. No. or Lic. No.
01	NONE		Maint Ferry ORD-MIA			P/N ON OFF		
			Ferry Permit Attach & Front					
			Cover			P/N ON OFF		
02	28.23		Fuel Boost Pump - Aft			P/N ON OFF		
			Right #2 Tank inop					
			on Autopilot Test			P/N ON OFF		
03	344.0		At ~~[illegible]~~ ~~[illegible]~~ up there					
			is still ground return			P/N ON OFF		
04	35.1.0		Check Crew O2 For Service			P/N ON OFF		
05			GEAR Pins [illegible]			P/N ON OFF		17111

CABIN ITEMS ☐YES ☒NO

ACCOMPLISH ONCE PER DATE: FIRE WARNING ☐ APU FIRE WARN. ☐ HYDRAULIC ☐ STAB TRIM ☐ SELCAL ☐ RADAR ☐ X TIE ☐

AUTOLAND ☐YES ☒NO

IF BORROWED PART AIRLINE FROM / ITEM NBR. /SER. NBR.

CHECK ASSIGNED/ACCOMPLISHED

SIGNATURE/EMP. NO. OR LIC. NO. / STA. / MO/DAY/YEAR

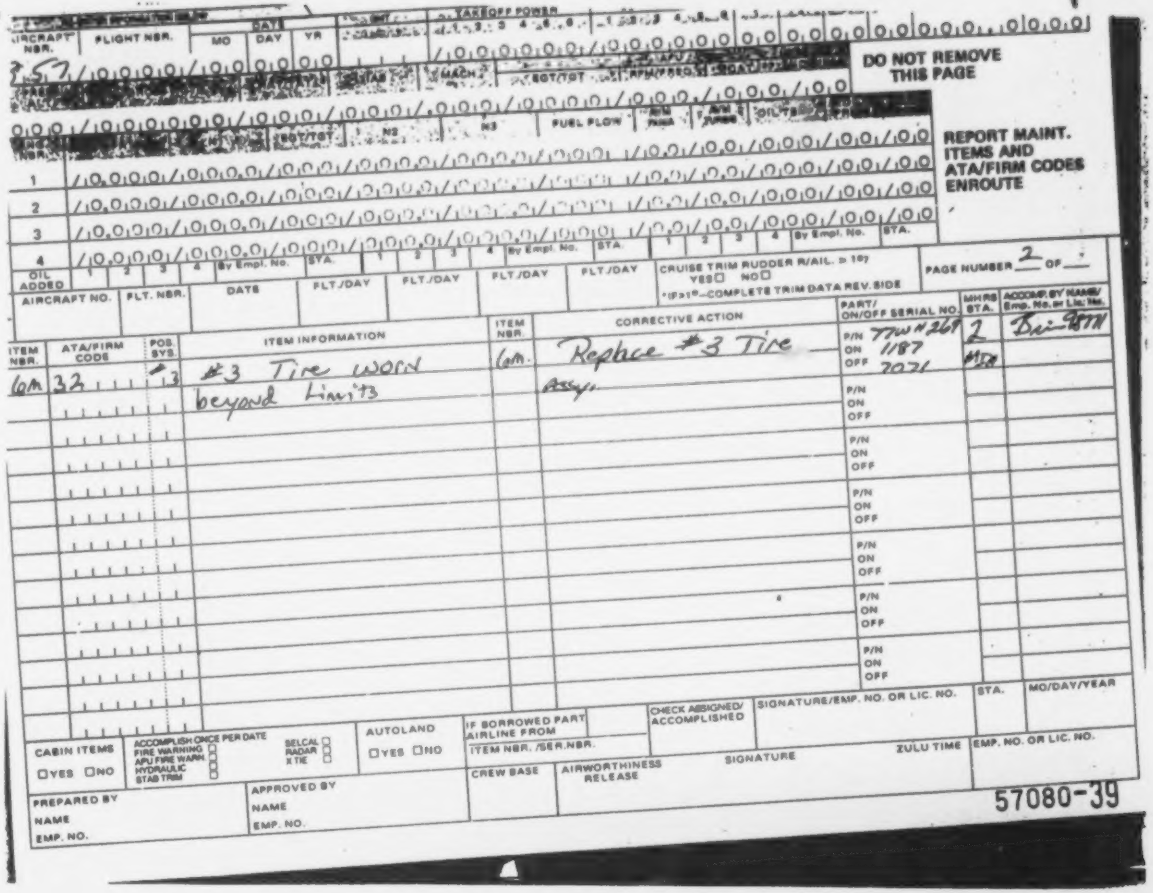
PREPARED BY NAME V G Buckwalter EMP. NO. 19488

APPROVED BY NAME J. I. Morris EMP. NO. 60291

CREW BASE MIA

AIRWORTHINESS RELEASE / SIGNATURE / ZULU TIME / EMP. NO. OR LIC. NO.

57080-38



AIRCRAFT NBR.	FLIGHT NBR.	MO	DAY	YR	TAKEOFF POWER
357					

MACH
EGT/TOT
RPM/FREQ.
APU
N2
N3
FUEL FLOW
OIL TEMP

ENGINE NBR. 1 2 3 4

DO NOT REMOVE THIS PAGE

REPORT MAINT. ITEMS AND ATA/FIRM CODES ENROUTE

OIL ADDED 1 2 3 4 By Empl. No. STA.

AIRCRAFT NO.	FLT. NBR.	DATE	FLT./DAY	FLT./DAY	FLT./DAY	FLT./DAY

CRUISE TRIM RUDDER R/AIL. ≥ 10? YES☐ NO☐
"IF≥1°—COMPLETE TRIM DATA REV. SIDE

PAGE NUMBER 2 OF ___

ITEM NBR.	ATA/FIRM CODE	POS. SYS.	ITEM INFORMATION	ITEM NBR.	CORRECTIVE ACTION	PART/ ON/OFF SERIAL NO.	MHRS STA.	ACCOMP. BY NAME/ Emp. No. or Lic. No.
6m	32	3	#3 Tire worn beyond Limits	6m.	Replace #3 Tire Assy.	P/N 77wH269 ON 1187 OFF 7021	2 MSY	Bui-9871
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		
						P/N ON OFF		

CABIN ITEMS ☐YES ☐NO

ACCOMPLISH ONCE PER DATE
FIRE WARNING ☐
APU FIRE WARN. ☐
HYDRAULIC ☐
STAB TRIM ☐
SELCAL ☐
RADAR ☐
X TIE ☐

AUTOLAND ☐YES ☐NO

IF BORROWED PART AIRLINE FROM
ITEM NBR. /SER.NBR.

CHECK ASSIGNED/ ACCOMPLISHED

SIGNATURE/EMP. NO. OR LIC. NO.
STA.
MO/DAY/YEAR

PREPARED BY
NAME
EMP. NO.

APPROVED BY
NAME
EMP. NO.

CREW BASE

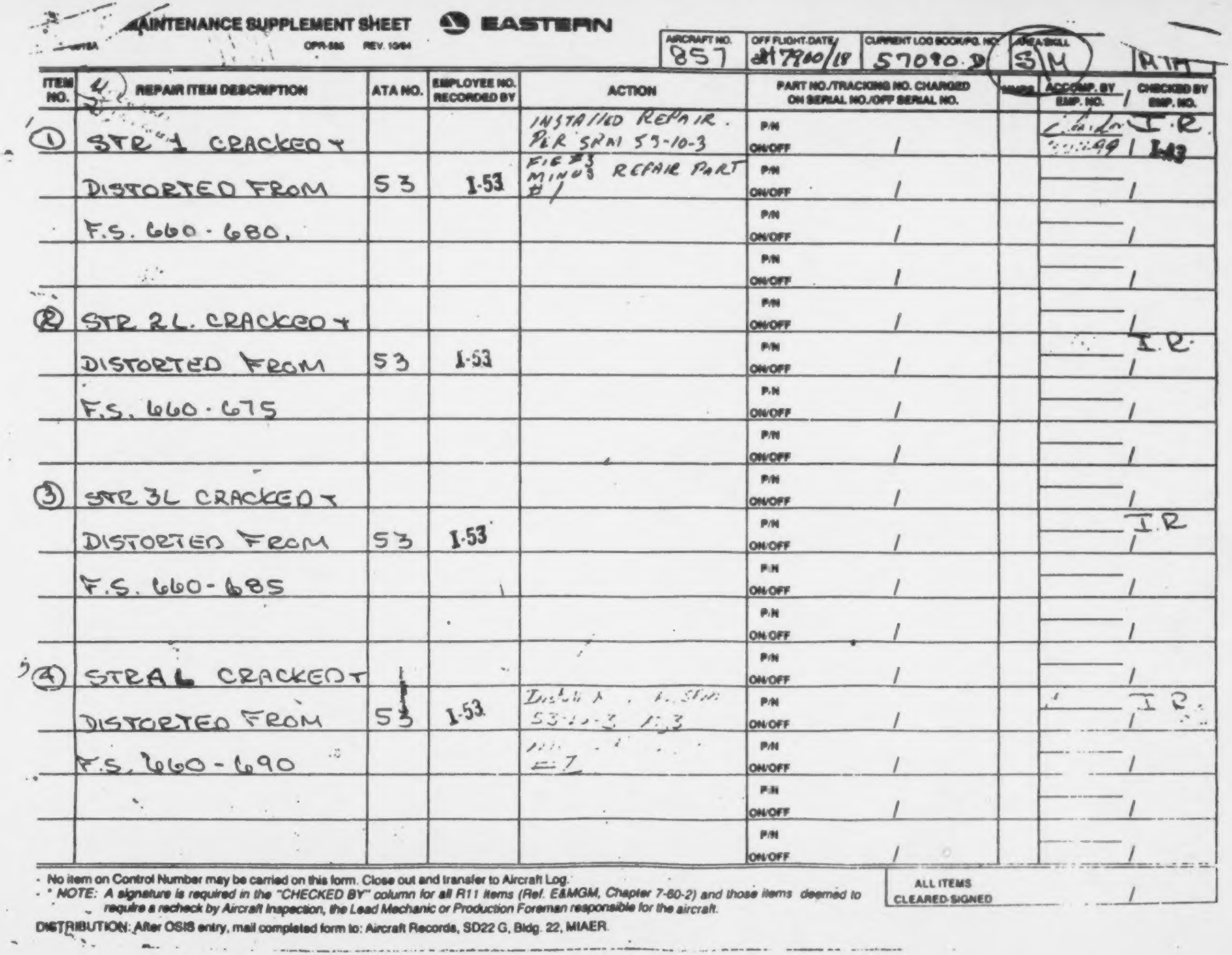
AIRWORTHINESS RELEASE

SIGNATURE

ZULU TIME

EMP. NO. OR LIC. NO.

57080-39



MAINTENANCE SUPPLEMENT SHEET EASTERN

OPR-586 REV. 10/84

AIRCRAFT NO. 857 | OFF FLIGHT DATE #7900/18 | CURRENT LOG BOOK/PG. NO. 57090.D | AREA SKILL SM | R11

ITEM NO.	4 REPAIR ITEM DESCRIPTION	ATA NO.	EMPLOYEE NO. RECORDED BY	ACTION	PART NO./TRACKING NO. CHARGED ON SERIAL NO./OFF SERIAL NO.	[illegible]	ACCOMP. BY EMP. NO.	CHECKED BY EMP. NO.
①	STR 1 CRACKED +			INSTAlled REPAIR. PER SRM 53-10-3	P/N ON/OFF /		[illegible] 99	I.R. 1-43
	DISTORTED FROM	53	1-53	FIG #3 MINUS REPAIR PART #1	P/N ON/OFF /			/
	F.S. 660-680.				P/N ON/OFF /			/
					P/N ON/OFF /			/
②	STR 2L. CRACKED +				P/N ON/OFF /			/
	DISTORTED FROM	53	1-53		P/N ON/OFF /			I.R. /
	F.S. 660-675				P/N ON/OFF /			/
					P/N ON/OFF /			/
③	STR 3L CRACKED +				P/N ON/OFF /			/
	DISTORTED FROM	53	1-53		P/N ON/OFF /			I.R /
	F.S. 660-685				P/N ON/OFF /			/
					P/N ON/OFF /			/
④	STR 4L CRACKED +				P/N ON/OFF /			/
	DISTORTED FROM	53	1-53	Install [illegible] SRM 53-10-3 FIG 3	P/N ON/OFF /			I.R. /
	F.S. 660-690			[illegible] =7	P/N ON/OFF /			/
					P/N ON/OFF /			/
					P/N ON/OFF /			/

ALL ITEMS CLEARED SIGNED /

- No item on Control Number may be carried on this form. Close out and transfer to Aircraft Log.
- * NOTE: *A signature is required in the "CHECKED BY" column for all R11 items (Ref. E&MGM, Chapter 7-60-2) and those items deemed to require a recheck by Aircraft Inspection, the Lead Mechanic or Production Foreman responsible for the aircraft.*

DISTRIBUTION: After OSIS entry, mail completed form to: Aircraft Records, SD22 G, Bldg. 22, MIAER.

NT SHEET EASTERN
OPR-586 REV. 10/84

PAGE 3 OF

AIRCRAFT NO.	OFF FLIGHT DATE	CURRENT LOG BOOK/PG. NO.	AREA/SKILL	STATION
857			S/M	MIA

ITEM DESCRIPTION	ATA NO.	EMPLOYEE NO. RECORDED BY	ACTION	PART NO./TRACKING NO. CHARGED ON SERIAL NO./OFF SERIAL NO.	MHRS.	ACCOMP. BY EMP NO.	CHECKED BY EMP. NO.
⑨ STR 2R CRACKED +				P/N ON/OFF /			/ I.R.
DISTORTED FROM	53	I-53		P/N ON/OFF /			/
F.S. 650-685				P/N ON/OFF /			/
				P/N ON/OFF /			/
⑩ STR 3R CRACKED +				P/N ON/OFF /			/ I.R.
DISTORTED FROM	53	I-53		P/N ON/OFF /			/
F.S. 645-680				P/N ON/OFF /			/
				P/N ON/OFF /			/
⑪ STR 4R CRACKED +			INSTALLED REPAIR PER SRM 53-10-3, FIG 3, - LESS PART #1	P/N ON/OFF /		49238	/ I-115
DISTORTED FROM	53	I-53		P/N ON/OFF /			/ I.R.
F.S. 645-670				P/N ON/OFF /			/
				P/N ON/OFF /			/
⑫ STR 5R CRACKED +			Installed repair I/A/W SRM 53-10-3, Fig 3 less part #1. To	P/N ON/OFF /			/ I-121
DISTORTED FROM	53	I-53	be installed with fuselage skin. sup item 5	P/N ON/OFF /			/ IR
F.S. 635-650				P/N ON/OFF /			/
				P/N ON/OFF /			/
				P/N ON/OFF /			/

ALL ITEMS CLEARED SIGNED /

- No item on Control Number may be carried on this form. Close out and transfer to Aircraft Log.
- * NOTE: *A signature is required in the "CHECKED BY" column for all R11 items (Ref. E&MGM, Chapter 7-60-2) and those items deemed to require a recheck by Aircraft Inspection, the Lead Mechanic or Production Foreman responsible for the aircraft.*

DISTRIBUTION: After OSIS entry, mail completed form to: Aircraft Records, SD22 G, Bldg. 22, MIAER.

AIRCRAFT MAINTENANCE SUPPLEMENT SHEET **EASTERN**

14-MF-001CA OPR-[illegible] REV. 10/84

PAGE 4 OF

AIRCRAFT NO.	OFF FLIGHT/DATE	CURRENT LOG BOOK/PG. NO.	AREA SKILL	STATION
857			S/1-1	MIA

ITEM NO.	REPAIR ITEM DESCRIPTION	ATA NO.	EMPLOYEE NO. RECORDED BY	ACTION	PART NO./TRACKING NO. CHARGED ON SERIAL NO./OFF SERIAL NO.	MHRS.	ACCOMP. BY / EMP. NO.	CHECKED BY EMP. NO.
⑬	STR. 6R CRACKED			INSTALLED Repair per SRM 5340-3 Fig 7. LESS part # 1 STRAP .125	P/N ON/OFF /		40976 /	I-121
	+ DISTORTED FROM	53	I-53	SUPP ITEM 34	P/N ON/OFF /		/	I.R
	F.S. 635-655				P/N ON/OFF /		/	
					P/N ON/OFF /		/	
⑭	STR. 7R CRACKED +			Repaired Per 53-50-3 FIG 3 MINUS PART #1	P/N ON/OFF /		35668 /	I-58
	DISTORTED FROM	53	I-53	To Be Installed WITH SKIN SEE Supp ITEM #34	P/N ON/OFF /		/	I.R.
	F.S. 642-655				P/N ON/OFF /		/	
					P/N ON/OFF /		/	
⑮	STR. 8R CRACKED +			INSTALLED REPAIR PER SRM 53-10-3 FIG#3	P/N ON/OFF /		62402 /	I-121
	DISTORTED AT	53	I-53	SEE SUPP #40 & 41	P/N ON/OFF /		/	I.R
	F.S. 640				P/N ON/OFF /		/	
					P/N ON/OFF /		/	
⑯	FUSE. SKIN				P/N ON/OFF /		/	
	WRINKLED FROM	53	I-53		P/N ON/OFF /		/	I.R
	STR 4L - 4R F.S.				P/N ON/OFF /		/	
	640-680				P/N ON/OFF /		/	
					P/N ON/OFF /		/	

ALL ITEMS CLEARED-SIGNED /

- No item on Control Number may be carried on this form. Close out and transfer to Aircraft Log.
- * *NOTE: A signature is required in the "CHECKED BY" column for all R11 items (Ref. E&MGM, Chapter 7-60-2) and those items deemed to require a recheck by Aircraft Inspection, the Lead Mechanic or Production Foreman responsible for the aircraft.*

DISTRIBUTION: After OSIS entry, mail completed form to: Aircraft Records, SD22 G, Bldg. 22, MIAER.

AIRCRAFT MAINTENANCE SUPPLEMENT SHEET **EASTERN**

14-MF-0816A OPR-566 REV. 10/84

PAGE 5 OF

AIRCRAFT NO.	OFF FLIGHT/DATE	CURRENT LOG BOOK/PG. NO	AREA SKILL	STATION
857			S/M	MIA

ITEM NO.	REPAIR ITEM DESCRIPTION	ATA NO.	EMPLOYEE NO. RECORDED BY	ACTION	PART NO./TRACKING NO. CHARGED ON SERIAL NO./OFF SERIAL NO.	MHRS.	ACCOMP. BY / EMP. NO.	CHECKED BY EMP. NO.
⑰	FUSE, SKIN				P/N ON/OFF /		/	
	WRINKLED FROM				P/N ON/OFF /		/	
	STR. 4L-10L	53	I-53		P/N ON/OFF /		/	J.R.
	FS. 640-680				P/N ON/OFF /		/	
					P/N ON/OFF /		/	
⑱	FUSE. SKIN				P/N ON/OFF /		/	
	WRINKLED FROM				P/N ON/OFF /		/	
	STR 4R-10R	53	I-53		P/N ON/OFF /		/	J.R.
	F.S. 640-680				P/N ON/OFF /		/	
/					P/N ON/OFF /		/	
⑲	STR 9L DISTORTED				P/N ON/OFF /		/	
	AT F.S. 685 APPROX	53	I-53	STRINGER [illegible] CUT	P/N ON/OFF /		/	J.R. I-121
/					P/N ON/OFF /		/	
20	STR. 9R DISTORTED			STRINGER [illegible]	P/N ON/OFF /		/	
	F.S. 650 APPROX	53	I-53	CUT	P/N ON/OFF /		/	J.R. I-121
					P/N ON/OFF /		/	
					P/N ON/OFF /		/	

ALL ITEMS CLEARED/SIGNED /

- No item on Control Number may be carried on this form. Close out and transfer to Aircraft Log.
- * *NOTE: A signature is required in the "CHECKED BY" column for all R11 items (Ref. E&MGM, Chapter 7-60-2) and those items deemed to require a recheck by Aircraft Inspection, the Lead Mechanic or Production Foreman responsible for the aircraft.*

DISTRIBUTION: After OSIS entry, mail completed form to: Aircraft Records, SD22 G, Bldg. 22, MIAER.

AIRCRAFT MAINTENANCE SUPPLEMENT SHEET EASTERN.

14-MF-0816A OPR-586 REV. 10/84

PAGE 6 OF

AIRCRAFT NO.	OFF FLIGHT/DATE	CURRENT LOG BOOK/PG. NO.	AREA/SKILL	STATION
857			S/M	MIA

ITEM NO.	REPAIR ITEM DESCRIPTION	ATA NO.	EMPLOYEE NO. RECORDED BY	ACTION	PART NO./TRACKING NO. CHARGED ON SERIAL NO./OFF SERIAL NO.	MHRS.	ACCOMP. BY / EMP. NO.	CHECKED BY EMP. NO.
21	FWD CARGO. STR 28R	53	I-14	① CUT OUT CORROIDED STRINGER	P/N ON/OFF /		34663 /	IR I-15
	CORROIDED THRU AT F.S. 680			② REPAIRED WITH NEW STRINGER SPLICE AS PER	P/N M/M 53-10-3 ON/OFF PG-2B /		40250 /	I-14
				③ Replace Intercostal Web	P/N ON/OFF /		34663 /	I-30
22	FWD CARGO. CORROSION	53	I-14	① REMOVED CORROSION	P/N ON/OFF /		R. Lemos 30751 /	IR. I-30
	ON FLOOR SUPPORT ANGLE			② ALODINE & PRIME	P/N ON/OFF /		R. Lemos 30751 /	I-30
	2ND ANGLE LEFT OF				P/N ON/OFF /		/	
	B.L.0. F.S. 620 TO 720 MKD				P/N ON/OFF /		/	
					P/N ON/OFF /		/	
23	FWD CARGO CORROSION	53	I-16	① REMOVED CORROSION	P/N ON/OFF /		R. Lemos 30751 /	IR. I-30
	ON FLOOR SUPPORT ANGLE			② ALODINE & PRIME	P/N ON/OFF /		P. Lemos 30751 /	I-30
	3RD ANGLE LEFT OF				P/N ON/OFF /		/	
	BL 0 F.S. 620 TO 720 MKD				P/N ON/OFF /		/	
					P/N ON/OFF /		/	
24	FWD CARGO. CORROSION	53	[illegible]	① CORROSION REMOVED	P/N ON/OFF /		52618 /	IR I-53
	ON FUS SKIN. B.L.0. AFT			② ALODINE + PRIME	P/N ON/OFF /		[illegible] /	I-53
	SIDE OF FRAME F.S. 680				P/N ON/OFF /		/	
	MKD				P/N ON/OFF /		/	

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AIRCRAFT MAINTENANCE SUPPLEMENT SHEET **EASTERN**

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AIRCRAFT NO	OFF FLIGHT DATE	CURRENT LOG BOOK PG. NO.	AREA/SKILL	STATION
857			S/M	MIA

ITEM NO.	REPAIR ITEM DESCRIPTION	ATA NO.	EMPLOYEE NO. RECORDED BY	ACTION	PART NO./TRACKING NO. CHARGED ON SERIAL NO./OFF SERIAL NO.	MHRS.	ACCOMP. BY EMP. NO. / CHECKED BY EMP. NO.
25	FWD CARGO OLD HARD-	52	I-14	PICKED UP ALL	P/N ON/OFF /		/ IR
	WARD & TRASH LAYING			OLD HARDWARES.	P/N ON/OFF /		535151 / I-53
	ALONG STR. 20L TO 20R.				P/N ON/OFF /		/
	FUS STA 620 TO 720				P/N ON/OFF /		/
					P/N ON/OFF /		/
26	INSPECTION CABIN		I-75	NO CRACKS	P/N ON/OFF /		/
	FLOOR BEAM STA 740			FOUND. GENERAL	P/N ON/OFF /		/
	GENERAL CONDITION			INSP. ACCOMPLISHED	P/N ON/OFF /		32141 / I-75
	(CRACKS)			OK.	P/N ON/OFF /		/
					P/N ON/OFF /		/
27	LEFT MLG WING	53	97164	[illegible]	P/N ON/OFF /		/
	DOOR BENT AT	32			P/N ON/OFF /		/
	FWD OUTBD CORNER				P/N ON/OFF /		/
					P/N ON/OFF /		/
					P/N ON/OFF /		/
					P/N ON/OFF /		/
					P/N ON/OFF /		/

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AIRCRAFT MAINTENANCE SUPPLEMENT SHEET **EASTERN**

14 MF-0616A OPR 565 REV [illegible]

AIRCRAFT NO 857 | [illegible] DATE 7/10/18 | CURRENT [illegible] 520[illegible] | [illegible] | [illegible]

ITEM NO.	REPAIR ITEM DESCRIPTION	ATA NO.	EMPLOYEE NO. RECORDED BY	ACTION	PART NO. TRACKING NO. CHARGED ON SERIAL NO. OFF SERIAL NO	MHRS	ACCOMP BY EMP NO /	CHECKED BY EMP NO
3	IMPROPER BUCKED RIVED STR 7L STA 665, MKD (REF ITEM 7)	53	I21·I	[illegible]	PN ON OFF /		/	IR I21
					PN ON OFF /		/	
4	WHEN SKIN INSTALLED INSURE TAPERED STIFFNER IS INSTALLED				PN ON OFF /		/	
	AT STR 7L 665-650, STR 8R 645-670				PN ON OFF /		/	
	STR 6R 635-655 STR 7R 642-655 SRM 53-10-3 ITEM #1				PN ON OFF /		/	
	REM SUPP ITEMS 7, 12, 13	53	I·121		PN ON OFF /		/	
					PN ON OFF /		/	
35	when skin installed insure tapered stiffener is installed	53	81248		PN ON OFF /		/	
	at STR 8L STA 665-675				PN ON OFF /		/	
					PN ON OFF /		/	
36	upon skin installation insure fillers installed at both side of repair str 4R BS 645-670.	53	I·115		PN ON OFF /		/	
					PN ON OFF /		/	
37	Cracks found Fwd				PN ON OFF /		/	
	of Rt. APU Cutout	53	RA 15224	stop drilled CK I·115	PN ON OFF /		/	
	Keel Web			REPAIRED PER EC [illegible]-53-3007	PN ON OFF /		/	I·30
				ck TO CLOSE	PN ON OFF /		/	
					PN ON OFF /		/	

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AIRCRAFT MAINTENANCE SUPPLEMENT SHEET **EASTERN**

14-MF-0816A OPR-565 REV. 10/84

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AIRCRAFT NO.	OFF FLIGHT/DATE	CURRENT LOG BOOK/PG. NO.	AREA/SKILL	STATION
851		57080	5/m	MIA

ITEM NO.	REPAIR ITEM DESCRIPTION	ATA NO.	EMPLOYEE NO. RECORDED BY	ACTION	PART NO./TRACKING NO. CHARGED ON SERIAL NO./OFF SERIAL NO.	MHRS.	ACCOMP. BY EMP. NO.	CHECKED BY EMP. NO.
					P/N ON/OFF /		/	
38	VERTICAL ANGLE			Step Drill Crack I-60	P/N ON/OFF /		/	
	JUST FWD OF APU			Repaired vertical	P/N ON/OFF /		/	
	KEEL WEB CUT-OUT		88232	angle as per E.O.	P/N ON/OFF /		/	
	CRACKED Rt			100-53-3007 page 2 6.1.1(E)	P/N ON/OFF /		48921 /	I-30
	SIDE				P/N ON/OFF /		/	
					P/N ON/OFF /		/	
39	STR 8R STA 668	53	26522 Fary	repaired per SRM 53-10-3 Fig 3	P/N ON/OFF /		77da 62402 /	I-43
	CRACKED.				P/N ON/OFF /		/	
					P/N ON/OFF /		/	
40	RIVETS PANCAKED & 2 RIVETS MISSING IN REPAIR AT	53	I-121	replaced rivets : installed 2 missing rivets	P/N ON/OFF /		62402 /	R11 I-43
	STR 8R F.S 640 REF: (SUPP # 15)				P/N ON/OFF /		/	
					P/N ON/OFF /		/	
41	CK THAT # 1 ~~STRATA~~ STRAP INSTALLED				P/N ON/OFF /		/	R11
	WITH FUSE SKIN STR 8R	53	I-121		P/N ON/OFF /		/	
	F.S. 640 (REF (SUPP 15				P/N ON/OFF /		/	
					P/N ON/OFF /		/	

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PLUS ADDITIONAL WORK SHEETS
WITH 1 THRU 129 ITEMS CK'ING A/C FROM
CARROSSION, TIRES, DECALS, RADIO ANT. , REMOVAL FLOOR PANELS, WINDOWS, FARINGS
LDG. GEAR, GEAR SEALS, TAIL SKID. ROBBED PARTS.

Mr. **Scheri**. Mr. Drescher also has a comment on this.

Mr. **Oberstar**. Yes.

Mr. **Scheri**. As far as Northwest is concerned.

Mr. **Oberstar**. I would like to get your comments. Does Northwest have a practice similar to that which was described by Eastern?

Mr. **Drescher**. It's mainly come about through the Republic side of the merger or acquisition. They will again use it basically the same way, only it's M-12. Each airline, of course, has different numbers. But it's the same type of form that when an aircraft that comes out of heavy overhaul out of a number check, that the airplane will be brought up to, say, 95 percent complete or 99 percent complete, and there will be items still open on the aircraft. We will transcribe those writeups onto what we call the M-12; like it would be items that require engine running, leaks, anything that is done actually outside the hangar will be entered into the M-12. Again, for the same reason, which is to keep the logbook as clean as possible, you know, to keep from entering all this stuff in. It's a legitimate way of doing business if it's treated in the manner in which it was designed.

The inspection department, when the airplane goes out, while this M-12 still has writeups or complaints in it, we actually release the airplane pending someone else doing the work on the M-12. So there is a crack there where things could fall through.

Done properly, it's no problem. And that's a little bit of the fallacy or a little bit of the problem here. Each airline—Eastern, Northwest, Republic—all had good maintenance systems. The maintenance system is approved by the FAA, this is the way we're going to do the work.

The problem with that is that between upper management and what happens on the floor to the aircraft. You have a bunch of people in there that do not know what they're doing. Top management, the people who are laying out these maintenance programs, know what they've got to do to fly aircraft. But we have maintenance managers, foremen, stuff like that, people that have actually no concept of what's happening. They're the people who are pushing, they're the people who are trying to intimidate people.

Mr. **Oberstar**. On that matter of pushing and intimidation, I understand from the inquiry our staff have done in various areas throughout the country, interviews and interrogation of people at various levels, that there is increased pressure on maintenance; that is, if a procedure took two hours, say, there are clear directives in certain airlines to cut that time down from two hours to an hour and a half, "When you go in and look at a problem reported in the nosegear, look only for that item that has been noticed; don't look for items B, C, and D." And mechanics have been so directed by supervisors.

Do you know of such incidents?

Mr. **Drescher**. Yes, I do.

Mr. **Oberstar**. Mr. Vela and Mr. Drescher, if you could report for us any that you can cite?

Mr. **Drescher**. Well, on this side, getting back into intimidation, again I might sound like a busted record here when I talk about the Republic procedures, but they have a little device called the

Scepter system, which is a maintenance computer system that generates the work cards on what to look for.

Our men who are working on Republic aircraft—now, this is Northwest Airlines, but we still have, after over a year's time, we still have Republic aircraft and we have Northwest aircraft. Now, our mechanics and inspectors will be working both on Northwest and Republic aircraft. But we operate on Republic aircraft with different paperwork, a whole different maintenance philosophy than what we do on the Northwest airplanes, which obviously is very confusing.

Mr. **Oberstar**. You're still operating two companies?

Mr. **Drescher**. Oh, absolutely. There are the computer-generated work cards that we use on the Republic aircraft. They use just checkoffs. You inspect certain items, and if you inspect more than that, you're in error.

If we write something up, we will be asked, "How did you find this?" We found it because we're looking at it. We're the Northwest inspectors.

We inspect aircraft different than the Republic people do. We can take two exact airplanes, two airplanes, two 727-200 stretched aircraft. Northwest inspectors will inspect the right wing on one of the Northwest types, and probably generate 100 to 150 cards. The Republic inspectors will use the Republic system and generate between 12 and 20 cards.

The reason for that is their inspection requirements, which are approved by the FAA, comes out of the Cytex card, on the Cytex card, the computer cards. And they've got a list of things they want checked, so they go bang, bang, bang, bang—and that's all they check. They operate a little bit on the theory that if they can't see it, it isn't broke.

Now, this is where the maintenance philosophies between Northwest, the old Northwest—and the new Northwest are getting in bad problems. I jotted down four items that we have problems with. One is management. One is morale. One is parts. The other one is no time to do the work.

Now, the management, the upper management I do not believe has the slightest idea what's going on at the line stations. I've got one item, if I may. It happened July 16 in Detroit. And if I may read this for you?

Mr. **Oberstar**. Please do.

Mr. **Drescher**. Northwest Airlines aircraft 5501 came into gate D-15 at Detroit Metro airport, where preflight inspection was accomplished. During the preflight inspection, a hydraulic leak was found in the left wing spoiler area. The two mechanics assigned to the aircraft had no training and were not qualified on 757-type aircraft. The mechanics told the manager on duty they were not qualified per Northwest Airlines Mechanical Volume A. The manager's answer was, "I don't give a damn about the manual. You two have that gate, so get out there and find the leak."

The mechanics went out to the aircraft and did not know how to lower the flaps. After about 10 minutes the manager came out and got the crew to lower the flaps. The hydraulic leak was found on the spoiler axle but the mechanics or the manager did not know how to bleed the pressure off the system. The crew bled the pressure off to 80 pounds, which is as low as they could get it bled.

The mechanic in the cockpit went to the flap area and told the manager and the other mechanic that the gauge still read 80 pounds and there was still pressure in the system.

The manager told the mechanic he was mistaken, that all the pressure was off and to pull the leaking plug. When the plug was pulled, the mechanic was sprayed in the eyes with hydraulic fluid. The mechanic that was sprayed by hydraulic fluid went into the maintenance area to wash out his eyes and applied castor oil to reduce the pain. There was no apparent relief.

The other mechanic asked the manager for the truck keys so he could take the person to the clinic. The manager told him he could take the injured person after the aircraft was completed. The aircraft at this time was not close to being done.

About 10 minutes later the manager told the mechanic to take the injured person to the hanger where he could call a cab to go to the clinic. Northwest Airlines has a letter posted that states that anyone who has Skydrol hydraulic fluid in the eyes is to get immediate attention within 15 minutes if burning persists. The amount of time before the injured person received treatment was approximately an hour and 15 minutes. The lower 30 percent of the mechanic's eye was burned.

My conclusion on this is that Northwest Airlines has requirements in place to provide qualified, trained mechanics to handle their aircraft and also to recognize the danger of Skydrol hydraulic fluid in the eyes. They even sent out first-aid procedures that we are supposed to follow. It's also obvious that Northwest Airlines maintenance management assigned to this station, to use his own words, "does not give a damn about what the maintenance manual says" or the fact that one of his mechanics got injured.

This is just one case, and this again come about through the acquisition of Republic, that Republic line stations were staffed much heavier than Northwest line stations. So we have unqualified people working the 747's, the DC-10's, and 757's, which Republic was not familiar with. And there are regulations. We have the paperwork in place to prevent this from happening, but it's not being followed.

Mr. OBERSTAR. Well, that is a shocking story. It just is unbelievable that someone could be so insensitive and also in such derogation of the company's own rules that you have just read, to endanger a person's well-being and health and be so callous, to say, "Fine, go ship him off there, and he can take a cab someplace."

Mr. DRESCHER. Well, this is again the morale problem because we have so many incidents, and this is one item. I won't say this happens every day, but it happens frequently. Morale, we have no morale because we have mechanics that work for Republic two years, say, work for Republic Airlines two years, we have a new mechanic that hired on yesterday at Northwest Airlines, the new mechanic that hired on at Northwest Airlines will probably make approximately $4 an hour more than the person who been at Republic for two years. Starting out, he's making $4 an hour more. These guys are working side by side, the same type of jobs. We cannot get a transition agreement with this carrier. We have—it's a complete disaster.

Mr. **Oberstar**. Well, the carrier, in turn, will say that the problems at Northwest are labor problems, not maintenance problems, that they're problems arising out of contract dispute, not out of concern for procedures, that they are the victims of a labor slowdown.

I think we have heard the same statement from Eastern. Eastern blames disgruntled pilots for slowing down operations by overreporting of incidents.

Mr. **Vela**. If I may, Mr. Chairman.

Mr. **Oberstar**. You don't have to all speak at once now. [Laughter.]

Mr. **Scheri**. I'm sorry, John.

I think that's a big smokescreen because they're covering up for their ills as managers of their respective companies, number one. I didn't want to get into this, but I am going to touch it very lightly. We've been trying to get a transition agreement with Northwest Airlines since July of 1986. Thus far, we have not reached an agreement with them.

You've witnessed many mergers in Minneapolis when it was the old Southern and the North Central, the old Republic into North Central, which became Republic Airlines. Our District Lodge there, working very quietly, working with Republic Airlines, put those mergers together, and you never satisfy 100 percent of the people with mergers or acquisitions, as you well know.

But this carrier, Northwest, for some reason, they want to keep this morale low—and it's been the lowest I have ever seen on Northwest Airlines, and I've got a few years in this business. And they're doing nothing to try to salvage it and getting those work forces together.

Mr. Drescher brings up one item with the mechanics, the $4 disparity, they're $6 on the ramp. People working side by side on that carrier. And you know, you don't have to be that smart, when you've got two individuals and they're unhappy, it's going to affect your work force. But knowing our people on Northwest, they put that aside when it comes to safety. They perform their job in a safe manner.

And I say both Northwest and Frank Lorenzo and Eastern Air Lines are using it for a smokescreen because I think they overextended have quickly themselves. They don't know how to handle the situation, and they're trying to blame the labor organizations, whether it's ALPA or the IAM. I just point that out to you.

I would like to add two things here if I may. On the supplement reports, my assistant has handed me information that you should know about. They utilize them also on USAir. Frank Celona is from TWA. They do also use them on TransWorld Airlines. And they're called M-139A sheets. So there are two more carriers for the record.

One last point. I don't want to stop your questioning, but earlier you inquired whether spare parts exist in these outlying stations under the hub-and-spoke system. A prime example I could give you, Mr. Chairman, is Carl Ichan's takeover of TransWorld Airlines. We have had many maintenance stations closed on that system, and $20 million had been budgeted for 1987 for spare parts on TWA. Just a few months ago he revised that budget. He has now reduced it to $15 million on spare parts in those outlying stations and also his hubs on TWA. This drives our mechanics crazy.

I just use TWA, but the same thing applies to other carriers. We have a famous saying. It's called "NIS." And it means "not in stock." We're trying to fix these aircraft in a professional manner, and they don't provide the parts. That's where you see many MEL's on these aircraft, whether it's in the cockpit or otherwise.

Why don't they provide these parts? For the simple fact they're all trying to make a profit off the hide of the public and these employees. And Mr. Lorenzo in his latest proposal regarding Eastern, you're familiar with that, says he wants to take our mechanics from $18.86 an hour and set up three classifications—a senior, a master, and a regular mechanic—and roll those wages back to $16 and $14 an hour in the year of 1987. You can rest assured that our union will be in a bloodbath with Mr. Lorenzo once again on Eastern Airlines.

I just point that out to you because a lot of times Congress doesn't see the whole picture on what we're facing every day with these financiers that have taken over these carriers. And I call them "Wall Street type of people," whether they're raiders or otherwise.

I will say it again, there are only two responsible chief executive officers in this industry. One is on American Airlines who came in after deregulation. That's Bud Crandall. And the other one is Ed Colodny, because he grew up with the industry.

The rest are fly-by-nights, and they do not know how to operate under a deregulated atmosphere. They just don't know how to do it, because they don't know how to be competitive with the next carrier, and our people are feeling it in the loss of jobs, transfers, and safety problems. Thank you.

Mr. OBERSTAR. Thank you, Mr. Scheri.

A further question about the spare-parts issue, back to that temporarily. There are indications that our subcommittee has received that Eastern has sold off some of its spare-parts inventory. Can you verify that?

Mr. VELA. Well, Mr. Chairman, I know that I can give you an incident that happened at my station. We had tires for the aircraft types that fly into our station. All of a sudden, one day we went out there and we had a tire change, and the tires had disappeared.

What we found out later was along with the material that is on the tire saying it's certified and it's a ready-for-issue part, all right, and also these tires, because they're a high-cost item, have a computer spark card, which is really a means of tracing where that unit is by an ID number, an ident number, as they call it, can find out where these expensive parts are, be it tires or a piece of air data equipment or whatever. Eastern put that system into place.

Well, the spark cards and the tires and everything were gone. Well, we were still charged with the tires. Subsequently, we found out that Continental in Houston came over and just took the tires. I realize that Continental is our sister airline, but there are procedures for borrowing and loaning parts.

The gentleman who is my lead pursued it further because we were still charged with four tires, 727-200 maingear tires and two 727-200 nosegear tires. We found out that the guy from Continental came and took them. He told him, he said, "Well, look, Billie," he says, "I'm going to tell you something," he says, "I'll take anything that you people have, and if you put a padlock on the door," he says, "I'll break the door down and get that too."

That happened about a week before I testified before the President's Commission. And one day shortly after I got back from that, the manager in charge of our nondestructive testing, who is an oldtimer and had been with Texas International and now, with Continental, asked me, he said, "Well, did you turn in this foreman at the President's hearing?"

I said, "No. Why would I do that," I said, "although somebody should turn him in." I said, "Do you realize that if that tire they came and borrowed with no paperwork showing where that serial number of that tire went and that airplane took off and it blew a tire and the wheel assembly separated and ruptured a wing tank and it caught on fire and there were deaths very similar to what happened in Manchester when the engine came apart with that 737," I said, "do you realize that the first thing they'd say is what's that tire doing on that Continental airplane and where's the paperwork that covers the transition of that airplane tire to Continental and vice versa?" I said, "That's the seriousness of going out and just acquiring parts."

Later we found out that there were 150 727 tires missing in the system and then we found out why: because the People's Express airplanes that they acquired in the merger have the same type brakes that we have on our fleet type on our 727's. Where the tires went nobody knows.

Mr. OBERSTAR. Has that been reported to the FAA? Is FAA aware of this?

Mr. VELA. Eastern supply people were the ones who told us, and I would hope that they turned that in. I didn't pursue it any further because it was secondhand information to me.

Mr. OBERSTAR. Well, we will certainly pursue that matter with the FAA.

Mr. VELA. But I have understood that in the area of the Airbus, that there has been a sale of a lot of parts for the Airbus. As you know, Continental took six of our Airbuses. I don't know whether they bought them, stole them, leased them—who knows. But there is a major transition of A-300 parts at Eastern that now we are short.

Mr. OBERSTAR. I didn't get an answer, Mr. Drescher, at least not that I recall—and it may have slipped your mind—to the point that I raised about pressure on mechanics to reduce the time taken for certain maintenance items.

Mr. DRESCHER. Oh, yes. This is—I apologize if I didn't explain that.

Mr. OBERSTAR. Well, you were discussing another very complicated matter, and I appreciate that. But I want to get your reaction; and to the situation where there was one maintenance item reported which a mechanic addresses and then finds two or three other items and is told by the supervisor, "Don't deal with these, just deal with A, B, C," et cetera. How widespread is that particular problem, and how frequently does that sort of thing occur?

Mr. **Drescher**. Predominantly, I am overhaul inspector. I am a lead inspector, and I have a crew for that work, the inspection when the airplanes come in for overhaul. And this happens with every airplane. A lot of it is again not so much lack of training, but we have hired a bunch of new inspectors. New inspectors, I would say, it takes at least a year to train a mechanic to be an inspector to where you can turn him loose and he's not going to miss anything.

Almost every aircraft that comes out of number check, this will happen where one inspector will go over and look an area over, someone comes back on a follow-up or for his own final inspection and finds some discrepancy. At that time there is a very great deal of pressure on us not to write it up. And at that time we kind of negotiate or plea-bargain with maintenance. If it's a minor item, we'll let it go. We'll say, "Yes, if we had caught it the first part of the check, we'd insist on it being fixed. At this part of the check, the airplane will fly nicely for 12, 14 months; it's going to cause no problem. We'll leave it go."

We work those deals all the time because once in a while we come up with a deal that has to be fixed, an airworthiness item or something that was bad enough. And I have had this go to engineering, go from me, and I deal with the aircraft foreman. The foreman doesn't tell me what I want to hear. He says like, "No. Too late. We ain't got time to fix it."

So then we go to engineering, and he tries to get engineering to write an R&D, which is a repair or deviation. We have that ability, our engineering department has that ability, to deviate from the maintenance manual. They do not like writing R&D's. And you can't blame them, because then the engineering departments are sticking their neck out, saying, "Yes, we can leave this go for another hundred hours, 500 hours, 5,000 hours, whatever."

We have a lot of R&D's against these aircraft on work that has not been repaired per the maintenance manual. It's not an uncommon way to do things. It's not necessarily a bad way to do things. It's just in some cases so much easier and quicker to fix things properly, but we will waltz one of these problems around, we'll fight with it, with something as simple as a control cable, as simple—when I say a control cable is simple, it's a piece of cable with two turn barrels, two fasteners, two connectors on each end. It has no moving parts.

And the bad part about that is that anyone can look at one and say, "Oh, I'm an expert." This is a very touchy part of the aircraft. And you write up control cables on the Northwest side—again I am using it, and I shouldn't be doing this—but it's the "old Northwest, new Northwest." The old Northwest, if we had a rusty control cable, we automatically changed it. Our riggers knew how to do it. We had no problems. And the cable would probably be worth $100. We got the work done. That cable then is good for at least three number checks, no problem.

The Republic side, the maintenance foreman, when we write him up a rusty cable, the maintenance foreman then will tell them to go in and clean the rust off the cable, sand the rust off, clean it up, cable coat it—and in this procedure, it will probably cost them in man-hours the same, $100 or $150, and you've still got an old, rusted cable in the airplane because you can't clean up inside the cable, obviously.

So this is again where we have this pressure on us. We write it up, they decide not to change it. They don't do the work. They palm it off. They leave it—"they" meaning maintenance management—and say, "We're going to save money on this. We'll just leave it go." Comes the last day of the check, they come to me, being a lead inspector, and want me to buy all this stuff off because at this time, no, they don't have time to fix it.

A lot of times, I just go to my boss and say, "Hey, you handle it." And in that case, then he's out of the union and yes, he does handle it because he doesn't have the backing that I do. And this is very common.

Mr. OBERSTAR. Thank you very much. I appreciate your answer.

Mr. SCHERI. Mr. Chairman, could I add one little thing? It's not on Northwest, but it's something that I think is in our testimony here that I hope is not taken lightly by Congress.

That is, years ago we used to have a line check performed on these aircraft in this industry every 24 hours. As we pointed out—and approved by FAA in 1984, where they approved a new system on American Airlines that any aircraft would not need a line check until 72 hours when it arrives at a maintenance station. With that, the rest of the carriers that we represent, we've seen that go through rubberstamped, and they also are now doing the same thing.

About the only thing we do, just so you know, is a daily service check. It amounts to basically checking the tires and brakes. And if an aircraft—using Eastern for a minute—if it's down three hours or more, they will check tire pressures.

In the past we used to perform these line checks. They took 30 minutes, and it was a thorough check by our mechanics. We would like to see them reinstituted in this industry. So far, FAA, I guess, has not seen it the way the machinists do who are out on those ramps every day. I think they need to be reinstituted because many of these aircraft are flying on three-day trips and they don't hit a maintenance station until the third day, and that's when the check is pulled.

And you've heard the statement in this industry that, "People carry aircraft so they can get back to their home domicile"? I'm quite sure you've heard it.

Mr. OBERSTAR. Yes, I have.

Mr. VELA. Mr. Chairman, I think one of the things you were hinting at in your questions with my counterpart over here was, Is there any kind of disciplinary action taken for exceeding a time limit on a change of some part.

Mr. OBERSTAR. Correct.

Mr. VELA. I would say yes. I don't have the documentation with me, but I know some of our mechanics have been given up to three days off. The company says, "I will give you a windshield change." They say you can do it in eight hours. They take nine hours and a half. The airplane is scheduled for a flight at the end of eight hours. They charge the two mechanics with an hour-and-a-half delay. That subjects them to disciplinary action of three days off. And there is documentation to prove that kind of stuff, not only with windshield changes but generator changes, CSD changes, whatever, you name it.

I think that the exhibit you have with the mechanic Jeff McNary, that's exactly—he was the lead, but in this airplane that they had scheduled for Flight 522, he had two mechanics assigned to a windshield change. When the manager came back, because he had pulled the two mechanics off to counter the operation on the flight line of active airplanes that were coming in, he pulled them off because he had heavy log book entries on the inbound flights, he pulled those two mechanics off.

When the manager came back from eating lunch or his evening meal out with another tech rep from Atlanta, the mechanics weren't there. They were subsequently going to delay this airplane scheduled for Flight 522. Jeff didn't give them the proper answers, and he terminated him.

So that is the severity of what you're asking.

Mr. **Oberstar**. Does Northwest have a spare-parts problem?

Mr. **Drescher**. Very much so. At the moment, I believe—I may be wrong; you'll have to check with the management people tomorrow when they testify—but I believe at this time we have four aircraft, I believe it's two or three 747's and at least one DC-10, sitting on the ground in Minneapolis because we have no engines.

Mr. **Oberstar**. Are those the ones they call gliders? [Laughter.]

Mr. **Drescher**. Yes, they are. Well, they are actually our parts. They are our parts supply. And they have a great diet because they sit there a day and they keep losing weight because this is where we go get the parts to maintain our fleet.

Mr. **Oberstar**. Is this common practice within the industry, or is this unique?

Mr. **Drescher**. It's common. It's very common that if you have an airplane down for some reason, if you have one, say you're short an engine and the airplane has a problem with one of the black boxes or something, it's very common to go over that airplane, fill out the paperwork, take the box out of that airplane to maintain or keep the other airplane on schedule. That's common.

But the severity of our parts problem now is just completely absurd.

Mr. **Oberstar**. Did Northwest have a problem of ordering spare parts from someone other than the original-equipment manufacturer and found that the parts were inadequate and had to go back to the original-equipment manufacturer?

Mr. **Drescher**. I can talk about that a little bit. There was—I believe what you're talking about was flap vane on a DC-10, which was a part that we couldn't buy—I was told we could not buy it from Douglas, so we bought it from an aircraft salvage yard out of Miami, which again is a fairly common practice in the airlines industry.

Where Northwest had the problem with that was that they just bought it out of this junkyard, hung it right on the aircraft, and put it right into service. If they would have taken that part and run it through our shop and recertified it, which we have the power to do, there would have been no problem.

However, they needed that airplane on a flight, so they just hung it on the airplane and waltzed the paperwork around so bad—the FAA knew there was a problem but they couldn't really document it because they couldn't tell where this flap vane was.

So if that's what you had reference to, that is fairly uncommon because we have inspection as parts come from outside vendors in, our inspectors look at the parts and they either approve or disapprove them. We have a lot of parts made by vendors who are not the original manufacturers.

Mr. **Oberstar**. I understand also that there was a problem with some Pratt & Whitney engine parts.

Mr. **Drescher**. Well, the problem with the Pratt & Whitney engine parts is we don't have them.

Mr. **Oberstar**. That is because Northwest didn't order them?

Mr. **Drescher**. I believe so.

Mr. **Oberstar**. They got on the order list too late to take delivery this year?

Mr. **Drescher**. It seems that—well, they're trying to cut corners, obviously. And the engine shop again, like every other place, these large JT–9 engines work fine. They will run fine for years. So the engine shop or engineering says, "Well, let's boost the power on these engines. They fly so good this way, let's boost the power and we can haul more freight." At least they can haul more people. So, you know, we start having a few more problems. "Well, we aren't having bad problems, so let's boost them again. Let's upgrade them again. Let's upgrade the engines."

And this, with all their finesse and talent in operating and "Let's do it today and we'll worry about it tomorrow," when it comes to the engine parts, tomorrow is here.

We are buying—we, I should say Northwest Airlines is buying DC–9's. We are buying them from Yugoslavia. We are buying old DC–9's when we have got good 747's, DC–10's, the best-maintained aircraft in our fleet, sitting on the ground because we don't have engines. We've got more seats sitting on the ground right now than we're buying old used airplanes. These are airplanes we already own. The bean-counters, the financial wizards, must know what they're doing. But it's driving the maintenance department nuts because we don't have the parts.

Mr. **Oberstar**. Thank you. I appreciate having that information. I am sure the company will have a response for this. We will pursue it further.

We have information from sources that the committee has talked to that at the Kansas City maintenance facility Eastern has had four different maintenance managers in the last year and a half. Is that correct?

Mr. **Vela**. That is correct.

Mr. **Oberstar**. What effect does that have on maintenance?

Mr. **Vela**. No one knows where they really stand. As I was saying earlier, Kansas City evolved as a station that was supposed to be unique with everybody cross-utiliziung themselves. And it did start that way. They had a maintenance manager there and he worked it that way. Later he got promoted. They brought in a temporary manager to fill in. He began to establish a lot of rapport with the people. And they transferred him out, put in a temporary guy—I think he came from American, that's what I heard. He only lasted about six weeks. They brought back the guy that had established all the rapport again.

He began to establish the same rapport, and of course Kansas City had grown substantially from when he was there earlier. From about 30 flights, it's up to 61 flights a day now. So he began to see all the problems they were having. Here is a 61-flight-a-day operation with 30 mechanics maintaining not only the flight line, the inbounds, but also all the GSE support equipment and the building maintenance, which breaks each crew down to about a 10-man crew. Well, you lay out a 10-man crew, with days off, vacations, et cetera, you've only got about six people there.

So Mr. Hanson came in and he was going to change all this. Now, the station is evolving itself back again to the standard A maintenance station. We are going to have specific mechanics assigned to GSE, we're going to have specific mechanics assigned to aircraft maintenance, and we're going to have specific mechanics assigned to building maintenance.

One problem: they're not giving him any approval to hire, and there is nobody who has requests in for Kansas City, because who's going to move in this "transient" system anymore and dislocate their families when you don't know from one day to the next whether you're going to have a job in Kansas City or Houston or San Antonio or wherever you are? Charlotte, Charlotte's a good station, but they've just laid off 40 mechanics there. We laid off 60, almost 60. We laid everybody off. They kept four of us.

Mr. **Oberstar**. This is a case of where the economics has outrun the maintenance side of things?

Mr. **Vela**. Well, sure.

Mr. **Oberstar**. Is that it?

Mr. **Vela**. There are changes in the flight system.

Mr. **Oberstar**. The economics have moved so rapidly.

Mr. **Vela**. Right.

Mr. **Oberstar**. And the maintenance side didn't keep up with the economics of it.

Mr. **Vela**. You know, there's a joke going around that one of these days they're going to read in the paper that they opened an 18-wheeler up and there were 18 mechanics suffocated to death because they were going to their next duty assignment.

It's kind of a morbid joke, but I mean that's just the way the guys feel. They don't know whether they're going to be one place or the next. It's just like they're migrant workers.

Mr. **Oberstar**. Is this an example of the kind of pressure that hub-and-spoke has put on the system?

Mr. **Scheri**. Yes.

Mr. **Drescher**. Yes.

Mr. **Vela**. Yes, sir.

Mr. **Oberstar**. Is this happening with other airlines other than these?

Mr. **Scheri**. We have people—I will give you a quick example—on TransWorld Airlines, they're still commuting between California and St. Louis working five days a week and then flying back out again to see their family because they can't afford to move from L.A. or San Francisco and St. Louis, because St. Louis is a hub for TWA. I just use that as a quick example. The same applies at all carriers.

Mr. **Oberstar**. What is the answer to the problem? How do you deal with this? How do you accommodate the rapidly changing economic environment, the freedom to move, the freedom to shift from one airport and one city to another, and assure that in so doing in this freedom to move, this deregulated environment, that maintenance will keep pace with the economics?

Mr. **Scheri**. My answer is real simple: we've got to reregulate this industry. You heard earlier from Hank Duffy from the Air Line Pilots Association. I was a little amazed that he said he doesn't need reregulation. They've been quoting that for many months on this Hill to reregulate, along with the IAM, and come up with a zone of reasonable fares.

I think it has to be reregulated, and I will tell you why. We did not as an organization like all the rules and regulations of the CAB, as you well know. We've been on record before Congress back in 1977. But we didn't think that that agency had to be destroyed. We thought that Congress had to finetune it. Okay. And of course, they saw it a different way, and then they went out of business on January 1, 1985.

I think we have to get a form of reregulation in here. I think these carriers are in place now because as you well know, we've only got six megacarriers left in this country. Six of them are left. And they've got their monopoly set up just like we predicted in their respective hubs. They have 90 percent of the market going between the six.

I say it's about time to reregulate and let's get out of this chaotic world. Maybe these carriers, with that type of situation being handed down to them, will get serious, and when they establish a station, a maintenance station per se, then people are going to stay there like it was years ago, rather than uproot them every time they get into a flight schedule change—which is what's happening out there, Congressman, and you people have to get involved because DOT is not doing a damn thing for the workers within this industry. They are rubberstamping everything that these carriers want, whether it's mergers, acquisitions, route swaps, labor protective provisions, you name it, even though Congress in 1978 said there is supposed to be protection for these workers as they relocate. Here it is, 1987, we have got not one plugged nickel out of Congress nor the DOT nor the Department of Labor.

And it happens every day. It may be a joke that John is pointing out to you about 18 guys in a trailer, but I wish you had time to go onto the ramps and talk to these people across this country that are moving every day—and I am talking physically—on their passes, and then five days later going home and see their family. Not many people will do that. The only reason they're staying with the airlines is because they're senior.

I think this also goes back to what the young lady said earlier today on Comair. They can't get mechanics. Of course they can't, because the industry has dried up on A&Ps. It's not like 1983, when Frank Lorenzo had a big surplus out there. They're all gone. And they pay $5 or $6 an hour like they're doing on Comair. And if they do go to a commuter, they're just using that as a stepping-stone to get experience to go on a major carrier because most of our carriers require an A&P license 18 months to 24 months before you can get hired by these carriers.

My own carrier, USAir, they've got the highest starting rate in this industry because they believe in employees. It's not a $10-an-hour rate like Continental. It's $13-and-change to start. And they are selective, who they're hiring on that carrier. And they have a lot of people knocking on their door because they know USAir and Piedmont treat employees like they should be treated. And when you look at it, both of those carriers made money. They're in deregulation since 1978 through right now, and they make a dollar. They have been making money. Why? You look at it, they've got good management. That management started from the bottom; they know what they're talking about on those carriers even though we just lost a CEO on Piedmont. But everybody else is still intact.

I say it's got to be reregulated, and a lot of people in Congress say, "No, we don't agree with the IAM." I thought we had the finest air transportation system in the free world prior to 1978. It no longer looks that way. It's in shambles, believe me, Mr. Congressman, it really is. And the only thing we can see is you've got to reregulate—whether these carriers like it or not. You've got to give them, I guess, a dose of medicine that they may not like the taste, and get this industry back stable once again.

Mr. OBERSTAR. I think that is an appropriate point on which to draw this day's hearing to a close. I think you have summed up the case, as you see it, very well. I must say there is growing interest in and support for some form of reregulation among my colleagues in the Congress.

As we look deeper into the problems of aviation, whether it's on the FAA side, oversight of safety and regulation of safety by the FAA and the problems that are well known to you and to this subcommittee in air traffic control and weather and safety and the flight service stations, the shortages of personnel, the problems of equipment haven't kept pace with a regulated environment or whether it's problems on the maintenance side or scheduling of airlines, overscheduling which causes delays and backups and the maintenance issues that we have seen today are all coming to a head.

Members increasingly are saying maybe the time has come for some form of reregulation. I am not prepared to make that judgment myself, but I do know that we have to deal with this problem that we are looking at today of maintenance to be sure that it is done adequately. If that means going into the economics of aviation, then we will not shrink from recommending steps be taken.

Mr. SCHERI. We want to thank you, Mr. Congressman, for inviting our union here to testify before your committee on this most important matter. I know all of us say thank you.

Mr. OBERSTAR. We appreciate your testimony. It has been most enlightening and helpful, and we thank you for being here.

The subcommittee stands adjourned until 10:00 a.m. tomorrow.

[Whereupon, at 7:48 p.m., the subcommittee was adjourned, to reconvene at 10:00 a.m., on Wednesday, October 21, 1987.].

[Mr. Scheri's prepared statement follows:]

LONG VERSION

STATEMENT
OF
WILLIAM L. SCHERI
AIRLINE COORDINATOR
INTERNATIONAL ASSOCIATION OF
MACHINISTS AND AEROSPACE WORKERS
BEFORE THE
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT
OF THE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
U.S. HOUSE OF REPRESENTATIVES
ON
OCTOBER 20, 1987

STATEMENT OF WILLIAM L. SCHERI
INTERNATIONAL ASSOCIATION OF MACHINISTS AND AEROSPACE WORKERS
BEFORE THE SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
UNITED STATES HOUSE OF REPRESENTATIVES
OCTOBER 20, 1987

Mr. Chairman and Members of the Subcommittee:

My name is William L. Scheri. I am the Airline Coordinator for the International Association of Machinists and Aerospace Workers ("IAM"). The IAM represents 801,451 members in a variety of industries throughout this nation. We are the largest union in the air transport industry, representing 93,935 employees in virtually every craft and class. As a union intimately involved in airline maintenance, the IAM welcomes this opportunity to state our position regarding the dangers facing the aviation industry today.

Ten years ago, when legislation to deregulate the air transport industry was before the Congress, the IAM led the opposition to it. We did so for a number of reasons. Prominent among these reasons was our fear that deregulation would lead to cutting corners in maintenance and an increase in safety hazards. This fear has, unfortunately, come to pass.

Carriers since deregulation have resorted to the economic law of the jungle. In the words of Professor Frederick C. Thayer of the University of Pittsburgh, "the dog-eat-dog competition unleashed by...economic deregulation...forces many if not all companies to cheat and cut corners in ways that are dangerous to their customers, society at large and even themselves." The pressures to cut costs are a direct result of the price-competitive arena into which the aviation industry has been thrust rather than the service-oriented competitive environment that existed before deregulation. As carriers strive to improve the bottom line they search for areas in which to cut their expenses. Over the past nine years, labor and safety-related costs, including training and maintenance inspections, have been the areas most often selected for cost reduction because their impact can be temporarily concealed. Between 1980 and 1984, the carrier money spent for maintenance decreased from 8.85% to 7.6% of their budgets, while the number of flights skyrocketed. One carrier has acknowledged that during a period of 20% growth, it increased its maintenance workers by only 7%. Perhaps most shocking of all, the period 1980-1984 saw 4300 mechanics furloughed (a decrease representing 12-15% of the total) while the number of planes in use increased by 1/3.

The cost-cutting mania spawned by deregulation has also encouraged carriers to shrink the once wide margin of safety which the industry previously enjoyed. The margin of safety is that factor by which airline regulations exceed the FAA's minimum standards. Under federal law, the FAA establishes only minimum safety standards but airlines are required to operate "to the highest possible degree of safety." C.O. Miller, former Chief Accident Investigator for the National Transportation Safety Board, has declared that he sees the erosion of the safety margin everywhere, in particular among the new airlines who are "only meeting the minimum standards."

Nowhere has the fierce competition under deregulation affected safety more than in the carriers' operation of the hub-and-spoke system. The hub system is intended to serve more destinations with greater frequency and fewer aircraft. While carrier's argue that this is sound business strategy for the airlines, it has strained carrier maintenance programs beyond safe limits.

Reorganization into the hub system has meant fewer mechanics and less servicing for more planes under tighter scheduling. Carriers attempt to maintain a very tight schedule to keep the planes flying out of a central airport. Time spent on repairs is treated as lost money. Mechanics (who's decreased number I mentioned earlier) can attempt to report trouble on items impacting airworthiness, but are regularly overruled, and at times are threatened by management to get the planes in the air on schedule.

Numerous minor repairs are delayed because of the demand for aircraft usage or other economic considerations. Deferral of maintenance has become commonplace in the carriers fare wars. Last year, the FAA fined Eastern Airlines' $9.5 million for many hundreds of violations of maintenance regulations and numerous examples of deferred aircraft maintenance. Though deferred maintenance is common, even a small repair, if ignored, can have serious consequences.

The hub system has also meant little or no maintenance or repairs at away-from-hub bases. Because carriers do not man these bases with sufficient maintenance personnel and inventory, equipment which develops defects at spoke airports cannot be properly serviced until it can be returned to the hub. Thus, while the capability is at the hubs, an FAA Flight Standards Manager, pointed out last year "there is only so much maintenance you can do in an [one] hour."

Since deregulation, preventive maintenance, at either the "hub" or the "spokes", has been virtually nonexistent. Rather than do necessary maintenance, carriers put off maintenance until a part on a jet is actually broken. American Airlines, for instance, changed its long-established maintenance inspection procedures four years ago and instructed its mechanics not to inspect aircraft until an actual failure of an aircraft system or component occurs. Preventive maintenance, as well as routine repairs and airworthiness questions, are all victims of the penny-pinching approach to safety and maintenance taken by air carriers since deregulation.

One final characteristic of the hub system points to a growing danger to the travelling public. The more intensive use of planes in the hub system pushes aircraft tolerances to the limit and beyond. Many aging ill-maintained aircraft are overworked. Without proper maintenance this trend will ultimately lead to disaster. Already there are too many old and defective aircraft filling our skies today. The obsession with cost-cutting has lead to the U.S. air carriers growing increasingly dependent on older planes (see Attachment A) instead of investing in new planes. The mixture of deferred maintenance, cost cutting and older planes have combined to create a potentially explosive situation.

The Dallas Morning Star, on November 17, 1985, printed a survey revealing that an increasing number of older aircraft throughout the world were involved in accidents attributed to structural or mechanical failure. Analyzing National Transportation Safety Board ("NTSB") records, the News came to some startling conclusions.

In the five years before 1979--when commercial airlines were flying newer aircraft before deregulation took effect--21.4 percent of the accidents were caused by metal fatigue, failure or corrosion, compared with 38.7 percent from 1979 to 1983. Before deregulation, only 16.6 percent of aircraft involved in accidents caused by metal fatigue had more than 30,000 hours flying time. After deregulation, 66.7 percent had more than 30,000 hours flying time. That's significant because 25 percent of pre-deregulation accidents (1974-1979) involved aircraft with more than 30,000 hours flying time, whereas five years after deregulation 41.9 percent of aircraft involved in accidents had more than 30,000 hours flying time.

Before deregulation, inadequate maintenance and inspections were cited as a contributing factor in only 28.5 percent of those accidents. After deregulation, inadequate maintenance and inspections were cited as contributing causes in 35.6 percent of the accidents. With the average age of the world's airline fleet having doubled in age from five to ten in the past sixteen years, statistics such as these cannot be ignored.

Beyond the hub and spoke system, deregulation has created a larger market among airlines, particularly new ones, for contract maintenance, which is repair work that is purchased from older established airlines or at FAA-approved repair stations. We agree with former head of the NTSB, Charles Miller, who believes anytime you give an operation like maintenance to other companies, you lose the quality control and direct communication between maintenance people, operations people, and pilots. Both Gene Drescher and John Vella, who are with me today, can attest to the fact that these repair shops are often cut-rate, lack proper documentation, and have little background knowledge regarding the planes they work on.

However, U.S. carriers do not stop at the American border in pursuit of "bargain basement" contract maintenance rates. The cost-cutting environment inspired by deregulation has led to the wide-spread use of foreign repair stations by U.S. airlines as a money-saving feature, a function for which they were never intended. The Air Transport Association's December 1986 proposal to the FAA to modify Federal Aviation Regulations 145 would permit U.S. carriers to contract for maintenance, repair, alteration and inspection with foreign repair stations whether or not they employed holders of U.S. Airman's Certificates (A & P licenses). Additionally, the proposal would permit foreign manufacturers to perform maintenance and preventive maintenance on aircraft and products manufactured by them without surveillance by the FAA. If adopted, the proposal would go a step beyond domestic contract maintenance by shipping American jobs overseas. This will further jeopardize safety by compromising American maintenance standards accountability and record-keeping.

Indeed, as Herbert R. McLure, Associate Director of the General Accounting Office stated "from a safety enforcement standpoint, records are the system." If we possibly entrust the lives of travelling Americans to the maintenance facilities poorly supervised by the FAA, our once proud air transport system will quickly become a national disgrace.

The strain on the FAA goes far beyond its inability to monitor maintenance abroad. The FAA has limited resources and manpower and therefore must place its trust in the airlines for voluntary compliance. However, that trust has been repeatedly betrayed by airline management that decides to cheat or cut corners for quick profits. It may take the FAA months or years before these violations of regulations are discovered. As I previously testified, Eastern Airlines, once a special in depth inspection by the FAA was conducted was fined $9.5 million for 78,372 violations of federal aviation regulations. The maximum penalty could have been $1,000 for each violation or $78,372,000.00.

While Eastern may be the worst offender, an intensive "white glove" inspection of more than 300 of the nation's airlines revealed what a government task force called a "high rate" of non-compliance with FAA standards. (See Attachment B for further details.)

Currently the FAA is seeking a $572,000 fine against Braniff, Inc. for operational and maintenance deficiencies which required corrections. The FAA's inspection of TWA has revealed logbook discrepancies involving maintenance and failures in complying with proper maintenance procedures. Last year, Pan American paid $1.95 million in penalties. Substantial penalties were also assessed against Continental, Alaska Air and U.S.Air.

Although the FAA should be commended for uncovering these violations, especially since the FAA is spread so thin, the IAM and many critics see airline maintenance as the "ticking timebomb" of air safety. There is a severe shortage of FAA inspectors and a greatly increased workload since deregulation. Unfortunately, the FAA inspection staff has always been short-handed and has always relied largely on voluntary compliance enforced with occasional spot checks. It is basically an "honor system". Unfortunately, there is not much honor among some of the corporate raiders that now own airlines. Instead of rising to meet this challenge, the number of FAA air carrier inspectors dropped to a low of 569 in 1983. Although the inspection staff grew to 750 members by 1986, the ratio of approximately 1.6

inspectors per carrier is still far below the 4.17 inspectors per carrier ratio enjoyed in 1977.

The strain on the system is apparent when the South Florida Flight Standards District Office is analyzed. It is responsible for 145 repair stations. It is responsible for monitoring, Eastern Air Lines, a substantial part of Pan American World Airways and more than 60 other airlines including many small "for hire" operators. It is, the FAA says the busiest safety surveillance office in the country. It has an authorized strength of 186 but actually has only half or 93 employees of which 15 are clerical on board.

Those few people were supposed to watch all those airlines and maintenance shops. They also certify numerous small airlines and repair stations. Each new certificate requires approval of training programs, maintenance manuals, management qualifications and equipment. If done at all, it would require an enormous amount of manpower. The FAA's manager of the Southern Region flight standard division admits that, "[t]here is no question that to handle the existing workloads takes away from surveillance."

There is no question but that deregulation has encouraged easier entry into the airline industry, acquisitions, mergers, and the like. A large number of the newer entrants rapidly go bankrupt. Thus, numerous aircraft change hands every day. This puts tremendous pressure on the FAA because all of these transactions are supposed to be monitored. Airlines, large and small, increased from 179 in 1979, the first year of deregulation to 499 by the end of 1983. There have been a number of consolidations and mergers since then, but each change requires more inspection by the FAA. It simply can not be done at current staffing levels.

The intense pressure placed on the undermanned FAA leads to accommodations with the industry which are not in the best interest of the flying public. In a disturbing trend, some FAA Principal Maintenance Inspectors, who must approve any carrier requests to extend the times between heavy maintenance checks, have displayed "looseness," in the words of a Boeing Company manager, in the granting of such extensions. Where does this leave the safety margin for you and I, the consumer?

This committee should know that a number of airlines, including Eastern and Northwest, have put their mechanics under enormous pressure from management to work fast on the ground so that planes can spend more time in the air earning money.

It is tragic that John King, a twelve year veteran mechanic at Eastern's Logan Airport maintenance base was fired when he went public with complaints he had made to the FAA. He complained of normal equipment installation tests being skipped to free a plane for service. Eastern management signed a work sheet indicating that the tests had been performed when in fact they had not been.

In another incident, mechanics spotted and reported a fuel leak in a pylon connected to an engine yet the request to repair the lack was overruled by management. The plane took off and the leak was not recorded in the aircraft's maintenance record.

In still another incident, a loose bolt punctured a hole in a 727's fuel tank causing a leak. An unauthorized quick hardening plastic sealer was used so the plane could take off. The hole was not correctly repaired with a metal plate until later that week. A supervisor concealed the improper patch job by not recording it in the aircraft's logbook.

At Eastern, foremen are encouraged to defer maintenance because they get bonuses for getting planes out of the hangar faster. Bonuses are paid for fewer departure time delays caused by repairs, loading, cleaning, and the like. Not only was King fired, but another 20-year veteran mechanic, Gilbert Butler, was suspended for speaking to U.S. News and World Report pending an investigation regarding these same matters. This is typical of how the carriers' treat mechanics who attempt to report maintenance violations.

It is also a matter of record that a spot check by FAA inspectors of Eastern's maintenance shop in Boston on July 30 caused Eastern to cancel one flight and delay three others to fix problems noted by FAA inspectors.

Eastern cancelled the flight of a Boeing 727 with a 2-inch crack in the panel covering a pylon that supports a rear engine. Eastern Airlines was also cited by the FAA for permitted a Boeing 727 with "major damage" in its fuselage to make two flights after the damage was discovered. The aircraft made a hard landing and hit nose first instead of wheels first in Tulsa, Oklahoma. The pilot reported the rough landing, but an American Airlines maintenance crew, following discussions with Eastern in Miami, cleared the plane to fly to Kansas City the next morning. Eastern then cleared it for flight from Kansas City. Finally, in Chicago, an Eastern Airlines' maintenance crew grounded it.

The hard landing snapped 14 support devices along the plane's hull. Three circular supports inside the hull were also broken. Wrinkles as long as 7 feet were found in the plane's skin. One IAM mechanic in Kansas City, Donnie Rice, a man with 19 years of experience warned management that he had never observed wrinkles like those found on the top of the fuselage. The IAM lead mechanic on the scene in Kansas City, Charles Butler believed the damage so serious he asked Control to stop boarding the aircraft. Management brushed our mechanics' alarm aside, dismissing the matter as a "closed book." (See Attachment C). Those seventy passengers who flew on the damaged plane to Kansas City from Tulsa and the eighty-five from Kansas City to Chicago never knew the danger they were facing.

A similar incident occurred only four years ago when a Continental 727 flew on five regular passenger flights with wrinkles and other damage to the fuselage after a hard landing at LaGuardia.

CONCLUSION

We are truly dealing with a maintenance time bomb. Deregulation of the airline industry has reintroduced the law of the jungle. The new obsession with cost-cutting has resulted in the reduction and deferral of maintenance. We of the IAM strenuously urge the Congress to disarm the ticking safety time bomb before it is too late. We urge stronger regulation, not simply because our jobs are at stake but even more importantly because our family members, and our friends fly in those aircraft. Until today, the courage displayed by IAM members in standing up for proper maintenance as well as the superior quality of the planes built by Boeing and the other aircraft manufacturers have helped American aviation avert a number of tragedies. Now is the time for Congress to take definite action aimed at correcting the current situation.

The IAM urges greater FAA surveillance. There is an urgent need for more maintenance inspectors. FAA inspectors should be given a higher profile and be assigned to the second and third shifts. The FAA should require thorough flight "walk-arounds" before each and every flight by a A & P.-licensed mechanic. There must also be greater FAA scrutiny of company maintenance plans which, because of the press of other duties the FAA has in some cases rubber-stamped. Maintenance should be done at line stations as needed and under less hectic circumstances. We urge the Congress to oppose any attempts to expand the use of subcontracting maintenance, especially with regard to foreign repair stations. Finally, in the name of safety and service, we endorse the passage of legislative measures aimed at the re-regulation of the airline industry.

ATTACHMENT A

FAA Faces Task of Finding Airlines Conducting Improper Maintenance

Washington—The maintenance challenge facing the Federal Aviation Administration is to conduct airline surveillance in a manner that identifies operators who are not in strict compliance with safety regulations, according to a senior FAA official, but he denied that airline deregulation is a causal factor in poor maintenance practices.

Anthony J. Broderick, associate administrator for aviation standards, told the House subcommittee on transportation, aviation and materials, that he disagreed with an assumption that maintenance practices have suffered from an economically deregulated airline environment.

'Management Focus'

"What we have found is that the key requirement for a sound maintenance operation is not a company's financial success, but rather whether there is a strong management focus on assuring the adequacy of the airline's maintenance system," Broderick said.

He called for strong enforcement action, recalling that prior surveillance of airline maintenance practices was "simply not adequate to meet this challenge, either in terms of level or quality of effort. We have taken strong remedial action to address these deficiencies by increasing inspector staffing and making refinements in our surveillance program."

FAA actions now include:

- National guidelines for minimum levels of inspection activity for each segment of the industry.
- Special in-depth inspections of all operators on a cyclical basis, conducted by teams that evaluate carrier activities in a level of detail not feasible in routine surveillance.
- [illegible]tional programs established to provide for an overall surveillance program that is more balanced than before, assuring adequate maintenance surveillance over all operators.

'Going Well'

Broderick and other witnesses said the maintenance approach, called Supplemental Structural Inspection Documents (SSID), is generally going well (AW&ST Apr. 28, p. 41). SSIDs identify all structural components whose failure could affect safety of the aircraft, and have now been developed for the Boeing 707, 727, 7[illegible] and 747 transports.

"We expect to see SSIDs developed for the [McDonnell Douglas] DC-9-10, DC-9-[illegible], DC-9-40, DC-9-50 and DC-10, along with the [Lockheed] 1011 within the next [illegible]o years," Broderick said. "We would anticipate appropriate regulatory action to require compliance with their terms as well." The McDonnell Douglas DC-8 and British Aerospace BAC 111 have SSIDs, which have not yet been established as mandatory by the FAA, he said.

"In terms of the issue of aging aircraft, I believe it is important to note that we are not experiencing a degradation of safety in commercial aviation, and this is not cause for alarm," Broderick said. "Clearly the situation is one that merits attention and continued action on our part."

The subcommittee was warned by James Burnett, member of the National Transportation Safety Board, that SSIDs were not the complete answer to detection of corrosion and crack propagation. He also noted that the FAA has not yet developed a formal program of supplemental inspection for aging aircraft engines.

Burnett said the NTSB in its most recent recommendations has asked the FAA to convene a maintenance review board comprising experts from Pratt & Whitney and maintenance overhaul facilities to review the JT8D-1, which was certificated in 1963 and has severe problems, mainly in failure of second-stage turbine disks.

Another witness, Benjamin A. Cosgrove, Boeing Commercial Airplane Co. vice president, said Boeing has spent $1 million a year over the past decade on evaluation of nondestructive inspection techniques and procedures, training and on-site assistance. He expects this level of funding to continue. Boeing also is developing an improved plan to review the structural condition of selected high-time fleet airplanes, and is updating structural inspection programs to account for new cracking pattern information from fleet service and Boeing test programs.

Operator Intelligence

Periodic review forums also were backed by William W. Hoover, executive vice president-operations and safety for the Air Transport Assn., contending that each airline can benefit from intelligence provided by other operators. He added that the continued safe operation of an aircraft is not limited by chronological age or cumulative flight hours and cycles, citing continuing modifications and refurbishment programs to extend life.

The Douglas DC-3, first flown commercially 50 years ago, is still providing safe transportation as a result of airline maintenance programs, Hoover said. ☐

Staff Survey Sets Pattern On House Maintenance Probe

Washington—Pattern for hearings on aircraft maintenance during a time of aging commercial fleets has been set by a staff analysis for the House subcommittee on transportation, aviation and materials, after a post-deregulation survey of the U. S. airline industry.

The analysis, which was prepared by Curt Stanford, Science and Technology Committee technical consultant, for subcommittee chairman George E. Brown, Jr. (D.-Calif.), stressed that since 1984 the number of scheduled airlines has doubled to nearly 500 carriers, operating about 4,200 aircraft.

During this period alone, the number of U.S. carriers, operating large jet transports increased from 39 to 124.

Issues for consideration by the subcommittee include:

- Is the increasing age of aircraft in operation [illegible] for concern?
- What [illegible] about the design life of aircraft [illegible]
- Is the Federal Aviation Administration's maintenance monitoring system effective in assuring compliance with aircraft safety standards, and how can the FAA maintenance monitoring system be improved?
- What is the FAA maintenance monitoring strategy for dealing with rapidly expanding and aging aircraft fleets?

The analysis noted that by 1984, 85% of American Airlines' fleet was 10 years old or older; in 1978 only 45% was made up of 10-year plus aircraft.

Stanford said similar increases applied to other airlines: Eastern went from 29% to 40%, Northwest Orient from 20.7% to 70.6%, Ozark from 36% to 89% and Pan American World Airways from 58% to 63%.

The average age for Boeing 727s was 12.16 years, and 8.44 years for the Boeing 737. In the 727 category, more than 80 aircraft are more than 20 years old. Yet, Stanford pointed out, it is not [illegible]

ATTACHMENT B

STERN (Cont.)

Borman and his management team. Bryan charged Eastern management had "created a record debt with huge annual interest payments and they have not made the business changes necessary to achieve profitability." Eastern's Air Line Pilots Association unit told The DAILY it had retained Skadden and Arps, a law firm specializing in company takeovers, "to look at all the options." ALPA said the options included a possible employee buyout — Eastern employees now control about 20% of Eastern's stock, which they received in exchange for past wage-and-benefit concessions. Leaders of the pilots union also have hired Lazard Freres, an investment banking firm, to analyze Eastern's financial condition and to make recommendations.

Bryan, in a bulletin to rank-and-file Machinists union members, asked them to purchase individually as much Eastern stock as they could as part of a program labeled by the union as the "Eastern Evolution. Bryan claimed that management, through its new proposals, "had destroyed the basis of trust and cooperation we have been attempting to build over these past two years." The Eastern Evolution program, he said, was developed after consultations with Eastern's two other major unions, ALPA and the Transport Workers Union, which represents carrier's flight attendants, plus non-unionized employees. Following a meeting of union officials in Atlanta, the Machinists union also released what it termed an open letter from District 100 to Eastern management personnel. It said a key objective of the Eastern Evolution program was "to eliminate the atmosphere of fear and uncertainty."

Eastern's corporate headquarters said it had not received formal notification from the unions about the Eastern Evolution program and their other actions and, therefore, had no immediate comment. In response to queries on what sacrifices were to be made by top management in the drive to reduce labor costs, a spokesman said that Borman, President Joe Leonard and three senior vice presidents had their pay cut 25% effective Jan. 1. On the same date, "45 vice presidents also took 20% pay cuts," the spokesman added. Management also has advised its roughly 15,000 non-union employees that they could anticipate pay cuts "in the neighborhood of 20%," after negotiations with the major unions are resolved.

FAA REPORT CRITICIZES AIRLINE SAFETY EFFORTS

A team of retired FAA inspectors which analyzed last summer's National Air Transportation Inspection Program (NATI) at the request of the agency has concluded that many airlines "permitted established programs to deteriorate as a result of their poor voluntary compliance attitudes and I insufficient FAA surveillance." The report said there was an "apparent decrease in the quality of air carrier management" and an "apparent de-emphasis of FAA legal enforcement action" since deregulation. The report lists carriers by number and seriousness of deviations in what could be taken as a national safety ranking of carriers. An FAA spokesman, however, denied any such intent.

The report says that "some air carriers are not fulfilling their statutory obligations to provide a compliance posture necessary to ensure a high degree of public safety," and that the NATI inspections "revealed, all too frequently, an inability or lack of motivation of the carriers' managements to exercise I appropriate operational control and to ensure the airworthiness of their aircraft." FAA field inspectors, it said, "are not initiating a sufficient number of enforcement actions to ensure that carrier management complies with the FARs."

The report says that since deregulation, circumstances "appear to have combined to create a serious deficiency in the FAA's capability to monitor the health of existing carriers. Certificate III administration and surveillance have both deteriorated in the face of an increased original certification and additional approval workload." It said there is "strong evidence" that the geographical area concept of overseeing carriers "has been ineffective."

Among the carriers the report shows as having a number of "adverse comments" — including some in a zone indicating that "safety of flight was directly or adversely affected" — were American with 100, Arrow with 85, Continental with 149, Delta with 104, Eastern with 119, Pan Am with 106, People Express with 59 and TWA with 75.

The report says that 64, or 21.1%, of the 303 air carriers inspected exceeded a standard set for deviations, representing a "less than desirable overall industry compliance posture." The report in this aspect differs from the official DOT report on NATI, which found 95% of carriers in compliance.

PAN AM yesterday received a $53.5 million contract from the Military Airlift C

ATTACHMENT C

September 28, 1987

Statement on AC 857 flt. 219

On the morning of Sept. 16 as I was returning from working a flt. I was asked by my lead mechanic to look at the fuselage of AC 857. I observed skin wrinkles on top of the fuselage, forward of the wing above the windows, just forward of the top radio antenna.

I returned to the office and informed the lead mechanic that I felt the aircraft had sustained some damage. The manager stated that the aircraft had a hard landing inspection performed by American Airlines and the item was signed off. I then suggested Tech Services be called to determine what American Airlines had inspected. The manager restated that the aircraft had been inspected by a licensed Airframe and Powerplant Mechanic at American and as far as he was concerned the issue was a closed book, but if anybody wanted to write the item up they could. I then stated that in 19 years as an Aircraft Mechanic I had never observed wrinkles in that area. The manager informed me that he had seen damage in that area before and it was not uncommon. At this point the aircraft had departed the station.

Donnie M. Rice
A&P #1836455
EAL #73749

September 18, 1987

TO WHOM IT MAY CONCERN:

On September 16, 1987, A/C 857 was flown into MCI on Flight #219. I had an in-range call to have a mechanic meet the A/C about a hard landing check the previous night. When the mechanic got to the A/C, there were no log items; but the crew told the mechanic about some damage to the A/C. The mechanic came back into the office and told me about the damage. I then called MIAMT to find out about the damage to the A/C. They told me that they carried no damage report but did know about a hard landing the previous night and that AA had done a hard landing check. I notified my manager, then we went to the A/C together. When I got to the A/C and saw the damage, I immediately called control and told them to stop boarding of the A/C. I then went to the cockpit to get the log book. When I came to the bottom of the A/C jetway, I met the manager and the captain. The manager said that he had talked to the captain and that the A/C had a hard landing check performed in TUL by AA and that they signed off the log book. The captain said that he was comfortable with the A/C and that he would fly it on to ORD and MIA where repairs were to be made. With that, I returned the log book to the A/C and returned to my office.

Charles E. Butler

Charles E. Butler
Lead Mechanic

AIRLINE MAINTENANCE PRACTICES

WEDNESDAY, OCTOBER 21, 1987

House of Representatives,
Subcommittee on Investigations and Oversight,
Committee on Public Works and Transportation,
Washington, DC.

The subcommittee met, pursuant to recess, at 10:21 a.m., in room 2167, Rayburn House Office Building, Hon. James L. Oberstar (chairman of the subcommittee) presiding.

Mr. Oberstar. The Subcommittee on Investigations and Oversight will come to order. The Chair apologizes for the late start caused by the unanticipated meeting of the Democratic Caucus earlier today, and the uncertainties of traffic in Washington rain.

At yesterday's hearing a number of themes emerged. We saw a picture of a reactive FAA, an agency that in the area of maintenance has responded and reacted to rather than being preventive toward concerns and problems of maintenance in the aviation industry.

We saw a picture of the erosion of the layers of protection or redundancy that have been built into the maintenance concept in aviation over a period of years. We heard allegations that the FAA is unwilling to be involved—and perhaps rightly so—nonetheless, concerns that the FAA has refused to, in a sense, mediate labor-management matters in which maintenance is involved.

We saw an emerging picture of the very delicate relationship of trust between management and labor. And two contrasting views of situations where labor and management relations are good and where maintenance is conducted in a trusting and effective arena, and those in which the trust between management and labor has either eroded or is absent, and where as a result maintenance, to some degree at least, has eroded.

We also are concerned that there still seems to be an inadequacy of FAA personnel to supervise management and labor in the conduct of aircraft maintenance.

These and other themes will be reviewed further in more detail with our industry witnesses, and with the FAA witness at today's hearing. Questions of management, morale, time, spare parts, pressures on those who conduct maintenance and those who oversee maintenance will continue to be the focus of today's hearing.

The Chair has no further opening remarks. Does the gentleman from Pennsylvania have an opening statement?

Mr. Clinger. Thank you very much, Mr. Chairman. I will be very brief.

During yesterday's testimony provided by three witnesses representing the majority of workers among organized air carriers, it was disturbing to notice the apparent adversarial relationship that has developed between labor and management at least at a couple of the airlines that were testifying. Perhaps in hearing from the management at these companies today, we might gain a clearer understanding of the genesis and depth of the ill will that may hinder their efficient operation. I think this subcommittee needs to explore this avenue, to hear both sides of this issue before we begin to draw any conclusions about these carriers, about their performance, and the safety of their operations.

I would have no doubt that problems aired yesterday, and there were many, stem from management's desire to increase productivity in what is clearly a highly competitive industry. But it's also clear that a number of companies are performing much better than others in this deregulated environment. If I may offer purely a layman's opinion, it seems to me that the better performing carriers also happen to be the carriers who are enjoying a cooperative working relationship with their work force, which really begs the question, why can't all carriers foster the same harmonious rapport that we have seen in some of the carriers.

Mr. Chairman, just one final note of caution. We're dealing with a service industry having a fleet of 3,000 aircraft, employing literally tens of thousands of individuals, that relies on strict adherence to a complex set of safety and operational standards. Some of the testimony received yesterday related anecdotal evidence that in my opinion should not be used to draw, at this point, broad conclusions about any one carrier, or about the fitness of the industry in general.

Thank you, Mr. Chairman.

Mr. OBERSTAR. Do the other Members have opening remarks?

The gentleman from New York?

Mr. MOLINARI. No remarks.

Mr. OBERSTAR. Certainly we are only halfway in the hearing, and we are not at a position of drawing conclusions and this phase of hearing on the matter of aircraft maintenance is one phase of what I consider to be an extended hearing process and continuing oversight. And we're not at the point of drawing conclusions or of making recommendations.

Our first panel today includes Mr. Steve Kolski, staff vice president and counsel for regulatory compliance for Eastern Air Lines; Mr. Terry Rendleman, vice president for maintenance and engineering at Northwest Airlines; and Mr. David Kruse, vice president for maintenance and engineering at American Airlines.

Gentlemen, please rise and raise your right hands.

[Witnesses sworn.]

Yesterday we heard one aspect of the maintenance concerns expressed by employees, both pilots and mechanics. Today we hear another side, that expressed by the management of many of the same airlines involved. I want to make it very clear that while concerns yesterday were expressed about labor and management relations, this is not the Labor and Education Committee. We are not here to resolve labor disputes. If such are a problem, it is of course, the freedom, and perhaps even to a certain extent, the responsibility of the parties involved to raise those issues. If such matters have a bearing on conduct of safety, then they should be noted. But it is not the purpose of this subcommittee to attempt to resolve, nor was it our intention in holding these hearings to focus on labor problems. Clearly they were noted yesterday. There were other, I think, much more extensive concerns raised, but I just wanted to make that very clear that we are not here as an arm of the National Mediation Board. However, whatever concerns will be raised, this is the forum, and of course management will be able to respond to any of the questions that were presented yesterday.

Let's begin with Mr. Rendleman.

TESTIMONY OF TERRY RENDLEMAN, VICE PRESIDENT OF MAINTENANCE AND ENGINEERING, NORTHWEST AIRLINES; DAVID KRUSE, VICE PRESIDENT FOR MAINTENANCE AND ENGINEERING; AND STEVE KOLSKI, STAFF VICE PRESIDENT AND COUNSEL FOR REGULATORY COMPLIANCE, EASTERN AIR LINES

Mr. **Rendleman**. My name is Terry Rendleman. I am vice president of maintenance and engineering at Northwest Airlines. We at Northwest welcome this opportunity to discuss our maintenance program with the subcommittee.

Northwest has long been a leader in airline maintenance and engineering, and we intend to remain in that leadership role. Our challenge is to sustain the historic excellence of Northwest's maintenance program through times of change. We are a business, we operate in a competitive environment, and we therefore have an interest in controlling our costs, in maintenance as in other areas. But our primary objective is to do whatever is necessary to ensure that the maintenance and engineering job is promptly and properly performed. Cost control, as important as it is, is secondary to our maintenance and safety responsibilities. Furthermore, good maintenance is good cost control, because a well maintained fleet is far less expensive to operate.

The degree of effort an airline puts into maintenance is difficult to measure exactly, but some rough measures include expenditures and personnel counts.

Let me review for a moment how our trends in maintenance over the past 5 years measure up in terms of expenditures and personnel. For comparison purposes I will focus on combined Northwest and Republic data for 1982 and obviously post-merger data for 1987, so that we may have an apples-to-apples comparison.

First of all let's look at our maintenance work force. From 1982 to 1987 we have increased the number of mechanics per aircraft by 12.5 percent, and we have increased the total number of mechanics by 28.4 percent. We now employ almost 4,200 mechanics.

And we are continuing that upward trend today. From mid-1986 to mid-1987 we increased our aircraft mechanic work force by over 6 percent.

Next let's look at our maintenance expenditures. From 1982 to 1987 our maintenance and engineering expenditures per aircraft have increased by 58 percent, to the point where we are now spending approximately $1.6 million per aircraft per year. Our total maintenance and engineering expenditures have increased by 80.5 percent from 1982.

These are expense budget figures only and do not include the substantial amounts we spent from capital budget for aircraft maintenance. For example, in 1987 we've committed $57 million for new maintenance tooling and equipment. In addition, although we already operate one of the largest airline maintenance bases in the world, we are making major capital investments to expand our maintenance facilities. Currently underway is a new two-bay 747 hangar/maintenance complex at the Twin Cities, that will be completed in 1989 at a cost of $38 million.

By any measure—dollars spent on maintenance, maintenance dollars per aircraft, total mechanic headcount, mechanics per aircraft—our commitment of resources to maintenance has steadily increased over the past 5 years.

Our commitment to maintenance has taken other forms as well.

One important example has been our emphasis in recent months on transitioning our entire fleet to a system of computerized maintenance record keeping known as SCEPTRE. This effort has been lengthy, complex, and expensive, but we are now beginning to see the benefits of the SCEPTRE system. The most important of these is an enhanced ability to track any history of problems on an aircraft, trends, MEL's, AD compliance, and so on. This has been a major improvement in our maintenance program which we were not required to make, but which we chose to make.

The SCEPTRE system and other technological innovations, such as expanded boroscope capability and investments in computer numerically controlled lathes, mills, and grinders, are all important aspects of our commitment to improving our maintenance capabilities.

A changing industry and advancing technology are posing new challenges to us and we do not for one minute underestimate those challenges.

The Northwest fleet currently consists of 314 aircraft. These include the very sophisticated 757's, three different types of widebody 747's, four series of DC–9's, two types of 727's, DC–10's, and even a turboprop-powered Convair 580. This diversification of our fleet is important to our passengers because it enables us to serve small and mid-sized cities as well as the larger cities of the Nation and the world. It is what enables us to offer convenient single connecting service from Erie to Tokyo, from Duluth to London, from Gulfport to Seattle, from Fargo to Honolulu, and from Billings to Orlando. In short, it's what makes it possible for smaller as well as larger cities to participate in the national, and international, air transportation system.

It also means that greater effort is required to maintain an adequate parts inventory and to allocate that inventory to line maintenance stations in a way that results in minimum schedule disruptions. We now have a parts inventory worth approximately $380 million, and growing. By the end of the coming year our parts inventory will exceed $450 million.

It is the use of the hub-and-spoke route systems, particularly with a wide variety of aircraft types, that creates the travel opportunities I have just described, especially for persons in small and mid-sized towns. But use of these route systems has also changed the nature of the maintenance requirements at the hubs. For example, hub-oriented route systems, with their emphasis on more attractive connecting times for passengers, typically involve less turn-time for aircraft at the gate. Hub operations create increasing reliance on such equipment as APU's as compared to operations characterized by aircraft parked for longer periods of time and utilizing ground power. As a result, we have had to place increased emphasis on APU's and their performance. The net result of this increase is that the operational effects of APU problems on our schedule reliability has been greatly reduced.

Another adaptation we in maintenance have made to the hub-and-spoke operations is the use of our maintenance coordinators in our own control towers at our hubs. The coordinators receive word of any maintenance work that will need to be done on the aircraft well before the aircraft arrives at the gate. He or she can then ensure that the mechanics and the necessary parts and equipment are already standing by at the right gate when the aircraft taxis in. In this way, lost time and hassle for our mechanics are avoided, so that the work can be completed without delaying our passengers.

The technology of modern aircraft is evolving rapidly, particularly in the area of avionics. Increasingly we have digital displays, onboard flight computers, fly-by-wire, and glass cockpit. The electronic revolution which is transforming so much of the rest of our lives is transforming the aircraft we fly as well. The results are major advances in reliability and performance. However, we in maintenance are also having to shift our capabilities more into electronics, and that is an area where at Northwest we are putting considerable emphasis.

With the expansion of our mechanic work force, with the increasing diversity of our fleet, and with the increasing hi-tech nature of the equipment we work with and maintain, training is and will remain a major emphasis at Northwest. We have our own in-house training program, which is now led by over 20 instructors and which runs nonstop to keep our mechanics apprised of the latest techniques. The combination of our training and recruiting efforts are helping us increase the quality as well as the quantity of our maintenance work force.

These are examples of how we have adapted and must continue to adapt to changing circumstances in order to sustain a high level of maintenance quality. These are all challenges we have stepped up to, and we will continue to do whatever is necessary to ensure a top quality maintenance program.

While the quality of our maintenance program is primarily our responsibility and we fully accept that responsibility, there are of course others who do affect its performance. Two of the most important of these are our union leaders and the FAA.

With respect to the former, there is no airline in America today which is more extensively unionized than Northwest Airlines. We fully respect the proper role of our unions in serving as advocates for our employees. But there are certain elements within our union who have adopted the tactics of slowdown as a bargaining weapon, a weapon unfortunately aimed primarily at the flying public who ultimately pay all of our salaries.

Our union in the maintenance area adopted a slowdown strategy in approximately mid-June as part of their efforts related to the normal negotiations of a new contract. That slowdown was in effect approximately through August. Its purpose was to inconvenience the public through flight delays and cancellations ostensibly related to maintenance. Typical slowdown techniques included pretending that a minor problem noticed as the aircraft arrived at the gate had not been noticed at all, and then waiting until shortly before scheduled departure time, noticing that it needed to be fixed. The time needed to fix the problem unnecessarily became a flight delay for our passengers.

One of the effects of this type of activity is that the number of MEL's increase as the work which is not required to be done is deferred so that required work can be done.

MEL's refer to specific pieces of equipment for which we are permitted to defer maintenance, typically so that we can continue to move passengers to the next location and have the necessary maintenance performed.

Mr. Oberstar. Excuse me, Mr. Rendleman. For the purposes of television, the microphone had to be lowered. For the purposes of the committee members hearing your words, I think the microphone needs to be adjusted. Perhaps you could move it on the other side so that it doesn't interfere with the T.V. cameras.

Mr. Rendleman. I could try to lay prone on the table, Mr. Oberstar. [Laughter.]

Mr. Oberstar. Just move your testimony on the other—no, just move your statement on the other side of the mike. That will serve their purposes and we'll be able to hear you.

Mr. Rendleman. Let me begin by saying MEL's refer to specific pieces of equipment for which we are permitted to defer maintenance, typically so that we continue to move passengers to the next location and have the necessary maintenance performed. The deferral of MEL items is particularly important to our ability to serve the points on our route system where we may not have sufficient service levels to sustain a full line maintenance function, but where we do want to provide air service. Of course no MEL can be deferred unless that practice has been specifically approved by FAA as to safety.

Not surprisingly, the time period of the slowdown we recently experienced coincides exactly with a temporary period in which our MEL's increased. In fact, the slowdown activity approximately doubled our MEL rate. We had reduced our MEL rate before the slowdown to a fraction of one MEL per aircraft per day, and I am pleased to report that we have now returned to that same level. But my point is that the surge in our MEL's this past summer does not reflect any less commitment on the part of this airline to the quality maintenance program, and neither our commitment nor our program can be judged by this MEL data. This data reflects only the willingness of a few in our union to disrupt our schedule and the schedules of our passengers.

Some of the MEL's this past summer were for problems that did not really exist or require an MEL, just as many of the delays and cancellations our passengers suffered were for mechanical problems which either did not exist or which should have been easily correctable. We write up all MEL's and we delay or cancel flights as necessary to deal with reported maintenance problems because no aircraft may depart until all such problems are properly resolved.

With respect to the FAA, it is important to note that they face many of the same challenges we do regarding efforts to sustain and improve the size and quality of their work force. They do an excellent job in the maintenance area with the staffing levels and resources they now have. Nevertheless, they will need the resources necessary to expand their work force and to increase their capabilities, particularly in such hi-tech areas as avionics, just as we will.

To those who assume that we and the FAA are adversaries it might seem ironic that we would advocate increased FAA inspector resources. But we are not adversaries. We each monitor and check the quality of our maintenance program; in fact, we commit far greater resources and efforts than they do. Both our internal audit program and their inspectors have the objective of finding and correcting any flaw before it becomes a more serious problem. We welcome their ability to assist us in that effort.

Closely related to that, we believe that in its enforcement role, the FAA should use its enforcement powers very differently when an airline through its own good efforts finds flaws, brings it to the FAA's attention and promptly acts to correct it, than when the airline does not bring it to anyone's attention. The system works best when airlines have a positive incentive to find their problems first and to bring them to light. We need to be constantly searching for, finding, correcting, and learning from any flaws that may develop, no matter how minor. The best enforcement policy is one that strongly encourages that to happen.

In conclusion, our commitment to maintenance is a strong one, our program is a sound one, and we continue to seek out ways to improve it.

That concludes my testimony, Mr. Chairman. I'm available along with the others on the panel to try to answer any questions you may have.

Mr. OBERSTAR. Thank you very much for your statement, and for the additional, more detailed material that is included in your written presentation. We appreciate having that information, and noting the continuing investment in maintenance and engineering by Northwest, and we'll have some further questions later.

Mr. OBERSTAR. Let's go next to Mr. Kruse.

Mr. KRUSE. Mr. Chairman, I too am honored to be here and to help in any way that we can to promote the common cause of safety in commercial transportation. You have my statement.

I will focus then on a number of those issues in the statement and perhaps share our view with you on some of the issues that you opened with this morning.

Our first piece of the statement we made was a general overview of our maintenance program. It's a very comprehensive and task-oriented program tailored to each fleet that we operate, which now numbers seven. It begins with the lowest levels of maintenance, routine preventive maintenance that we call a periodic service, as low as one mechanic, two hours, and is done in general daily, but not to exceed 48 hours maximum, on up to our heaviest "C" checks, which can include up to 140 mechanics on the aircraft and 17,000 manhours, plus backup shop work for units and components that are removable from the aircraft.

I won't dwell on that unless there are questions, and will be happy to respond later. I would like to move into our activities at American within M&E since our FAA audit of 1985 in July, which is what I consider to be ground zero, and all things that we were doing then and what we've done since is kind of a standard by which we measure ourselves.

We, at American, took the view at that time that rather than expend tremendous amounts of effort justifying and/or defending our levels of maintenance at that time that we would try to take a very positive view, respond to all criticisms and translate that into an unquestioned leadership role in the best maintained airplanes in the business. So the things that we have done since then, we would view as how you do a Cadillac maintenance program, not a minimum standard by which all airlines should be measured. I think that's important that we note that.

Since that time we have committed resources to driving total open items down—an open item in our operation is defined as any pilot or mechanic or flight attendant log write-up in addition to MEL items that may be written up by any of those groups, or at least the pilots/mechanics groups. We have driven the total open items, which can be as minor as dirty rugs or appearance items on the aircraft up through inoperative non-essential systems, as defined in the MEL of the appropriate airplanes. We have driven those numbers, from back in 1985, around 5.5 open items being carried on average per aircraft to down around 1.8. MEL's in particular, we've paid attention to, and the subset below that, priority MEL items, or as in the business we call Black Border MEL items, we've driven still lower. I think some of those numbers were shared with you yesterday, and I won't dwell on them.

We've focused a great deal of energy on training, in addition to our overall maintenance program and make it the undisputed finest in the industry. We've had a huge turnover in work force and have begun a growth plan that is quite ambitious to the point where today 75 percent of our employees in the maintenance business have less than 5 years with the company. That has driven tremendous training needs and we've rededicated our efforts to make sure that we stay ahead of that and that every member of our team working on aircraft has adequate classroom training and on-the-job training. I think it's an essential part of any maintenance program.

We have spent up to 4 percent of our direct labor hours in formal training in classrooms, and as high as 10 percent if you include on-the-job training which are formal programs as well, where people are checked off and certificated for various aspects of maintenance. We plan to continue that as the age and experience of our work force dictates.

Materials increases over the last 2 years have been substantial from somewhere over $100 million in direct maintenance spending to $225 million. In addition, we carry a $517 million spare parts inventory to support our fleet which has grown from 1985, 282 aircraft, to today's fleet size which is 403. That will continue on up through about 585 aircraft which we have firm commitments to take.

Part of the key issues I think that you've touched on and that we at American have recognized perhaps early on, is that the relationship with all employee groups is our most important asset, and we at American today enjoy non-adversarial relationships with all of those groups. I must say we feel that we're on the leading edge maybe of a new era of labor/management relations. The old being characterized as an adversarial relationship where people are expected to argue, to one of the 1980's in a deregulated and competitive environment, where if we are to prevail it requires a cooperative relationship between those groups and the management.

We've tried very hard to nurture that and I think have been successful on both sides. Organized labor at American has recognized the need to compete and to do their part to enable the company to do so. Management in turn is committed that with additional ability to compete, they won't waste a minute or a dollar and we will remain competitive. So it's a very delicate balance, and one that could be disturbed by sources beyond our control; the downturn of the economy, layoffs, all of these things can affect that very delicate relationship.

Activity that we have tried to meet our commitments is an extensive quality of work life program, annual and even semi-annual employee surveys which encourage everyone in an environment of anonymity to tell us everything they don't like about the workplace, what's going on, the way it's managed and what their individual problems are. For the most part those have been taken very responsibly by the employees and we've made a lot of changes trying to respond to their needs, and make the people feel that they are taking part in the decision of participative management. I think the key to doing that is to allow a say, not always to have their way, but to allow employee groups to voice their opinions and then management's obligation is wherever it's appropriate to respond to that and make it that way. Obviously that participative management must practice the style that's rather fashionable today that we call MBWA, management by wandering around, staying involved and looking at the problems as they occur, and as our employees see them.

In any maintenance program, our view is there are really only—it's very simple what the objective is, to provide a well-maintained fleet, although our methods of getting there in equipment we maintain are ever more complicated.

You really need four ingredients, and all of the effort and the complexity that is put in is aimed at delivering those four ingredients. They are people, tooling and equipment, parts and the aircraft ground time. The personnel must be properly trained and in sufficient numbers. The tooling and equipment must be the right tool, well maintained. Parts must be the right parts, at the right station, in sufficient numbers. Last and probably most important is the aircraft ground time. And that is a cooperative effort between the maintenance activities and the airline planning folks who determine the routings of our aircraft and the ground times, as well as the flying time. Obviously any planning department's objective is to keep the airplane in the air, and money was never made with an airplane in the hangar. By the same token, you're playing "you bet your company" if airplanes over the long haul don't spend enough time in the hangar. So within that broad backdrop, planning organizations and maintenance departments must work very closely to optimize the flying time or utilization of the aircraft against the maintenance needs of that aircraft.

There are a number of forces at work that have strained that relationship over the years. As Mr. Rendleman mentioned, hub and spoke operations, which have been driven by deregulation, are counter to all the ways that major airlines were organized in the past, in that they do not lend themselves to major bases at the hubs. The hub is a place where airplanes converge and depart within a 45-minute to 2-hour window and there is no time to work on them. It tends to diversify maintenance departments out to lesser stations and thereby reduce the efficiency of maintenance departments. Over the years of deregulation as we've learned that lesson, there has been a reluctance to diversify or to change the schedules in order to allow sufficient ground time with the four ingredients that I mentioned available.

To respond to hub and spoke operations and their incompatibility with larger centralized maintenance facilities, generally the airlines have to recognize that more maintenance stations are going to be required; that backup aircraft are going to have to be required at the hubs, and shorter routings may be required between maintenance opportunities. Some combination of those three must be done to maintain our current levels of maintenance or improve them. All of those cost money, big money. Particularly backup aircraft where you can have a $20 to $40 to $60 or today $150 million investment that is not in a schedule and is simply there to back up other assets which are performing. That's a tough decision for an airline. Shorter routings also have a negative effect on the overall aircraft utilization. So all of these need to be scrutinized very closely so that adequate time is there, but not a minute more.

So all of these pressures on costs, hub and spoke operations, and schedule pressures if not balanced by the proper emphasis, and yes, pressure on appropriate quality parameters such as minimizing open items, minimizing the number of deferrals permitted and maximizing maintenance effectiveness or what I call, low repeats. A repeat at American is any airplane which has a malfunction or discrepancy that reoccurs after a maintenance attempt to fix it more than twice in 30 days. We follow those very closely and when we see that happening on an airplane, then we focus either training, special tools or test equipment, or troubleshooting techniques to try to prevent it in the future.

With those balances and an equal priority, or in fact a higher priority on the quality issues, then schedule dependability, then a longer range view is required on schedule dependability. One that does not focus on the short term. The short term is to carry increasing numbers of discrepancies and non essential systems inoperative. In the long term it is the road to a serious problem. The long term approach, I think, has to be characterized by planning, preventative maintenance, and anticipating of mechanical failures and providing the resources that are needed to deal with them. While trying to improve our overall maintenance at American and simultaneously grow in unprecedented numbers of aircraft, we have committed a long range capital plan to maintenance facilities which I hope will be a signal to all that we are taking the long-range view and going to provide the resources needed to maintain our increasing fleets.

Today we have a $200-million expansion program going on at our maintenance and engineering center at Tulsa. We have a $24 million expansion program going on in Dallas, at our hub city there, and are looking closely at Los Angeles and San Francisco to increase their maintenance capabilities as our fleets continue to grow. Our annual budget has grown from in 1985 around $400 million to a current $650 million a year. We anticipate it will grow to $1 billion by 1991. The bottom line on our costs, I would say, our objective is the best maintained airplanes anywhere, but to find a way to do it at competitive costs. Over the time period since our audit, our costs have increased from what we consider the bottom line number, and that is dollars per available seat mile. We've gone from .62 cents in 1985 to .76 cents in 1987. We think a long term goal with renewal of the fleet, obviously cost per available seat mile increase as your fleet ages, but with the renewal program at American, we expect to keep those costs, over the long haul, at below 7 cents per available seat mile.

One other comment I think that covers the points that we wanted to make in general, the view that the FAA is perhaps reactive and not active. I would take a different view. At American we have found them very much reactive to any problems, which they must be. We are all learning from the machines we operate. We don't have all the answers in the beginning. When we see a problem we must react quickly to fix it. But the FAA we see in the Southwest region is one that is not only reactive, but very active. We feel that we are receiving the kind of scrutiny that the public and the taxpayers would expect, and our customers. We are concerned by continuing comments that they are not, because we fear that it's going to drive us too far in the direction of overconservatism, which in the long run will not be cost effective to the traveling public. We want to spend the money that provides absolute safety, but to try to shotgun or impose rules across the board without looking at individual circumstances, I fear may drive costs that are not in the public's best interest. So I think we have to be very careful in generalizing on their activities.

I think the criticism that may be more valid is NTSB, Congressional groups and the public have put pressure on the FAA, and that it has encouraged more aggressiveness and on a temporary basis, an unevenness in their enforcement and handling of the rules, which I think they are working hard to correct and we've seen a lot of evidence to that effect.

But I think all of our interests over the long haul are best served by an FAA that has the time and the staffing to contemplate the technical issues and the engineering judgments as to what is safe and what is not, and not to be reacting to what can be very spotty public pressure to react before engineering judgments can be made and substantiated.

So I guess if I could leave the committee with one thought, it would be that we must spend the time looking at the individual situations and the technical merit of actions we contemplate without simply implementing them and assuming that if we're ever more stringent, we'll err on the safe side. I think the long-term benefits to that could be to the economic detriment of the carriers and ultimately to the air transportation system.

Thank you.

Mr. **Oberstar**. Well, thank you very much, Mr. Kruse. We really appreciate the wealth of detail as presented in your statement, and many more pieces of information presented in your written documentation, which will of course appear in full in the record for all the witnesses in addition to your delivered statement.

Perhaps the most penetrating insight into this maintenance issue was your statement of a bit ago that in the era of hub and spoke, a need to have more maintenance stations, more backup aircraft, shorter routings. Perhaps to that you might add a minimum amount of time between flights. But I think those three points go to the heart of the problems that we've been looking at for the last 2 years, in the course of our oversight. As summed up by the testimony yesterday and the documentation we've developed, I think that really is a very important matter that we will pursue further.

Mr. **Oberstar**. Mr. Kolski.

Mr. **Kolski**. Mr. Chairman and members of the subcommittee, my name is Steve Kolski and I'm Eastern Air Lines' staff vice president and counsel for regulatory compliance. Eastern appreciates the opportunity to testify before you on the subject of airline maintenance and safety.

At the outset I'd like to state openly why Eastern scheduled a press conference yesterday during a break in the subcommittee's hearings. Eastern has been slandered, maligned, and unjustly criticized for trying to run the best airline possible, both yesterday in this room and last week in the Senate. Unfortunately, based on our experience last week in the Senate, we realized we had to do more than testify to get our message across to our friends in the media. That's why we called a press conference, but called it during the subcommittee's lunch break to avoid interfering with your deliberations.

Mr. Chairman, Eastern will not lie down while a small vocal minority group of employees try to destroy our company. We will not lie down while these same people challenge the professionalism and dedication of thousands of Eastern employees who know that Eastern is a safe airline because of their daily efforts. Too many people have worked too hard to let that happen. We will not let them down by allowing these unfounded charges made yesterday in this room, and last week in the Senate to go unanswered.

With me today are several of Eastern's senior captains and a maintenance foreman. They're sitting right behind me. They have seen through the union safety scare tactics that were presented to you yesterday. And they have gone public with their views in spite of the intimidation they will most certainly encounter from the militants within their own ranks. They believe that Eastern and its employees have been dealt a grave injustice, and that the traveling public deserves to know the truth and you deserve to know the truth. Each has submitted a written statement for the record, and is available to answer any questions the subcommittee has.

Let me take a few moments to read just a few excerpts from those statements.

Mr. OBERSTAR. Mr. Kolski, let me just explain that as I said at the outset, the purpose of having you and the other representatives in management here is to balance the equities and balance the viewpoints. There was never any doubt in my mind that there are two views on an issue of this importance. And because we've received differing views in the course of our staff inquiries from management and labor, we've invited both to present their differing viewpoints.

Mr. KOLSKI. That's what I'm——

Mr. OBERSTAR. I just wanted to put you at ease that the reason you're here is to present that other viewpoint.

Mr. KOLSKI. I realize that, Mr. Chairman. I also realize that those behind me today represent the silent majority of Eastern Air Lines. Yesterday you heard from the vocal minority. I would think you and the other subcommittees would want to hear from that silent majority.

Mr. OBERSTAR. Well, you're here to present the—you needn't be at such pains. The point is you have the forum, you have the floor. Please proceed.

Mr. KOLSKI. Thank you.

Mr. OBERSTAR. I don't think you need to engage in news conferences. We're not doing maintenance by news conference, we're doing it by fact.

Mr. KOLSKI. Thank you.

From Capt. Robert White, a captain on the 757 at Eastern:

> Captain McClure's testimony before the House Subcommittee on Investigation and Oversight on Tuesday, October 20th is indicative of a manner in which ALPA likes to do business. He told the subcommittee that it was not his intention at any point to drive customers away from Eastern Airlines. And yet on several occasions Captain McClure and I have discussed the fact that he has no other ambition in life than to see Eastern Airlines' relationship with Frank Lorenzo terminated or to see Eastern Airlines destroyed. Eastern has a lot of intimidation among the pilots at the present time. In my personal experience that intimidation does not come from the Flight Operations Management, but rather it comes from the leadership of the Air Line Pilots Association. That leadership's main concern is their self serving agendas and attainment of personal goals, and does not include the pilots nor the betterment of Eastern Airlines except as it leads to that attainment of their individual goals. ALPA leadership is lacking both in desire and ability to negotiate a satisfactory compromise to make Eastern Airlines a strong company. And because of this lack of ability and desire they have chosen to mix safety issues and labor relations issues to confuse the public. This is a detriment to all the employees of Eastern Airlines and the public.

From Capt. Carl Frye, a 33-year veteran:

> After hearing media reports during the break last week that certain Eastern pilots had testified before the Congress that Eastern was an unsafe airline, I could no longer sit still and watch this ALPA-led farce without doing something about it. That is why I am here today. Recent testimony before this subcommittee suggests that I and fellow pilots are routinely intimidated to fly unsafe aircraft. I find this suggestion preposterous. On the contrary, I do suggest however that the dispension of this venomous information by certain members of my association results in an uninterrupted campaign of intimidation. Further, let us focus on Eastern for a moment. Our past record speaks for itself. It needs no defense. For years Eastern has maintained standards substantially above the industry requirement. This in-

volves triple navigation systems, triple gyros, and triple communication systems to name just a few. The industry standard utilized by most carriers is two.

From Capt. Don Tadken, a 27-year veteran:

> Over the years on occasion I have refused or delayed for maintenance aircraft legal by FAA and Eastern regulations, should flight in specific weather or other conditions warranted, in my opinion. Never have I been criticized or pressured because of it. In recent months we have been requested to inform our chief pilot or his representative as to the details. This is accomplished with no pressure. In recent months we have had a definite and continuing improvement in maintenance. Certainly in the past years we have had our problems at Eastern. But I have been impressed and appreciative of line maintenance excellent efforts and improvements.

Mr. OBERSTAR. Mr. Kolski, we have the document you've submitted for the record, statements of these several pilots. And we will consider including that in the hearing record. I'd like you to move on with your response to the specific maintenance issues. As I said earlier, I don't intend this hearing—you've had plenty of opportunity with a news conference and other forums to air your disputes with the AirLine Pilots Association. I would like you to get on with the substance of these issues. The labor/management question is a matter that we have noted in passing. But the points of this inquiry are the other major questions about maintenance. Now these matters of testimonials are important from the standpoint of the question that you've already raised. And we'll note that for the record, and we'll include those. But we could go on all day with testimonials for and against. That's not our purpose. So I'd like you to proceed with the major focus of your very considerable prepared statement dealing with MEL's and other issues of that kind.

Mr. KOLSKI. Very well, Mr. Chairman.

Since 1978 allegations have been made that airlines, in an attempt to remain competitive, have cut corners on safety. You have heard many of those same allegations repeated here yesterday. My experience, however, tells me that these claims are not true.

American Airlines recently ran an ad in which they made a variety of claims about their maintenance program, which is an excellent one. It said that it spent $650 million per year on maintenance for a fleet of 396 airplanes, or an average of $1.5 million per plane. In 1987 Eastern expects to spend $524 million on its fleet of 279 aircraft. This works out to $1.8 million per plane. This is not cutting corners. American stated that its maintenance programs far exceed government requirements, and they do. It did not mention exactly what these programs were, but in our written testimony, Eastern addresses just a few of the maintenance initiatives underway at Eastern, which far exceed FAA standards.

American stated it employed 7,500 employees dedicated solely to maintenance. That works out to 19 employees per airplane. Eastern employ 6,335 employees in its maintenance and engineering division, or over 23 employees per airplane. At Eastern there has been a dramatic increase in the resources devoted to maintenance, safety and regulatory compliance. For example, in 1987 Eastern will spend half a billion dollars on maintenance and engineering expenses, which is a 42 percent increase from 1985 levels, with a fleet which is less in number today than it was in 1985. Between 1983 and 1987 Eastern's total maintenance costs per flying hour increased from $495 to $656, the industry's largest maintenance increase during that period.

Additionally, maintenance and engineering expenses currently account for 12.1 percent of Eastern's total operating expenses. This compares to 8.1 percent in 1985. With the exception of 1986, Eastern's maintenance work force is higher in number today than at any time in the last 5 years. This has occurred in spite of the fact that the number of airplanes in Eastern's fleet has been reduced. These facts exemplify the tremendous commitment Eastern is making to strengthen its maintenance capability and provide the traveling public with the safe product they expect and they deserve. At Eastern Air Lines safety is the number one priority. While some of Eastern's unions would have you believe this is not so, Eastern proudly points to its past record.

With its current fleet of 279 aircraft Eastern operates almost 550,000 flights per year, carrying 42.5 million passengers. In the last 13 years Eastern has operated 6.2 million flights carrying 435 million passengers, with one unfortunate fatal accident during that period. While one is too many, Eastern's safety record ranks amongst the industry's best.

I would point, however, that the safety scare tactics currently being employed against Eastern have seriously affected Eastern's performance. Given the recent Congressional interest in the service provided by carriers to the traveling public, it is important that you be made aware of what Eastern faces in its attempt to provide a safe, reliable product for its customers.

In February of this year, after Eastern advised its unions that it was necessary to restructure labor costs if Eastern were to remain competitive, the pilots refused to enter into any meaningful dialogue. Instead a major slowdown campaign, called Max Safety, was implemented. This campaign, falsely characterized as a safety awareness program, is nothing more than a classic work-to-the-rule slowdown. The object is to avoid having to face up to the undeniable fact that Eastern must restructure its labor costs if it is to remain competitive. This means an adjustment to labor contracts that were established when price competition was virtually unknown and airlines were permitted to pass through increased labor costs to the traveling public. ALPA describes the slowdown as "an economic weapon against the company." I would like to demonstrate to you what effects it is having on our company.

I would direct your attention to some of the exhibits in Eastern's testimony which we have enlarged for your review. The first chart shows one of the questions included in the survey which ALPA conducted of Eastern's pilots. I think the question, "Would you support a job action such as fly-by-the-book?", speaks for itself.

The next chart is taken from a newsletter put out by the head of Eastern's ALPA unit, which summarizes the overall strategic plan against Eastern. Note two items from that plan that reveal its true intention. The first, a comprehensive organizing campaign for all Texas Air Pilots. The second, a comprehensive Max Safety campaign on Eastern. You should know that the slowdown and other ALPA tactics are being financed by a $2.5 million payment from ALPA headquarters in Washington.

Before I proceed I would like you to ask yourselves the question, why a slowdown now? ALPA would have you believe that Max Safety is a program to improve safety at Eastern. While this is an admirable ideal, Eastern wonders why it was started in 1987. Deregulation came to the industry in 1978 and many of the allegations from ALPA about the eroding margin of safety started at that time. Where was Max then or in the 10 years since? Why did he finally surface? The answer lies in the fact that Max Safety, like so many other ALPA scare tactics of prior years, is really an ALPA response to a labor/management dispute over wages, fringe benefits and working conditions.

In 1986 Eastern suffered a loss of approximately $131 million. Between 1981 and 1986, the cumulative loss for Eastern was $494 million. In plain and simple terms, Eastern cannot continue to operate with these types of losses. If Eastern is going to remain an effective competitor and preserve the 40,000 jobs it currently provides, it must get its costs under control. I strongly suspect that if Eastern were today to announce that it would no longer desire its pilots to restructure pilot labor costs, Max would disappear. Why else would one of the Max Safety stickers ask, "Had enough yet?"

The next chart is an accurate reproduction of an ALPA flyer. Note that it lists 14 separate components known to be low in inventory. It encourages Eastern's pilots to write those up thereby maximizing the disruptions in Eastern's system. ALPA employs a tactic-of-the-week strategy designed to target specific components for write-up. Listen to an excerpt from an ALPA flyer which is included in appendix 7 of my written testimony:

> In order to demonstrate to management that the Max Safety campaign is working and has the hearty endorsement of all pilots, I would like to start sending a series of clear, unmistakable signals to the powers that be. The simplest and most effective way of doing that is by selecting one of the 72 tips that I sent to everyone on the four safety checklists and emphasizing it for a period of time. At just about the time we demonstrate that we're all working together on that one item, I'll switch signals, select another item from the checklist and send you all a postcard with the effective dates for featuring that item.

The next chart is an accurate reproduction of various ALPA stickers. Note the intimidating phrases: "Had enough yet?", or "Warning, Inflammatory Sticker". ALPA pilots, not all, put these stickers in Eastern's cockpits requiring the company to devote substantial resources to remove them. The placement of these stickers in the cockpit is a violation of the Federal Aviation Regulations.

The next quote is from another ALPA flyer that reveals the purpose behind the stickers is to deface Eastern's property. It says,

> As usual I've included a batch of stickers with this mailing. And he assures me that once they get stuck, they'll stay stuck. You have to peel these babies off with a blow torch.

The following series of charts show how the slowdown has affected Eastern Air Lines' performance. This chart shows pilot reports, which are the rate at which pilots report alleged mechanical discrepancies. Note the dramatic increase since the first quarter of this year when Max Safety came to Eastern.

The next chart shows that in 1987 Eastern is replacing windshields in its cockpits at a rate 72 percent greater than 1986 levels. Mr. Chairman, and members of the subcommittee, a windshield gets replaced when a pilot says his vision is obscured. That does not account for a 72 percent increase.

The next chart, Eastern's replacement of certain avionic parts in 1987 has increased over 100 percent, to 128 percent over 1986 levels.

The next chart shows that the delays and cancellations attributable to mechanical reasons at Eastern are up. Especially I would ask you to note the decreasing trend into the first quarter of this year before Max Safety appeared.

And lastly, the cancellations attributable to mechanical reasons are up again. Note the decreasing trend until the Max Safety program began.

Yesterday in this room Mr. William Scheri of the IAM commented that airlines, including my airline, Eastern, put mechanics under pressure to work fast. I hope Mr. Scheri did not mean to imply that airlines should encourage mechanics to work slow. There is absolutely nothing wrong, immoral or unsafe about instilling some old fashioned hustle in a work force. A disciplined work force that can respond with dispatch and fix discrepancies properly and promptly is more likely to be responsible to safety concerns than a work force that exhibits a "I'll get around to it in time or it's my lunch hour" attitude.

Mr. Scheri also misinformed you about recent events at Eastern involving certain mechanics. I know that you paid special attention to his testimony in that regard. I would like to set the record straight as to those matters. Mr. Scheri stated that Eastern fired a mechanic named John King in Boston, when he went public with complaints he had made to the FAA. And Mr. Scheri relayed to you three allegations that Mr. King has made. The first was that certain equipment installation tests that are part of an engine change were skipped, and management signed a work sheet indicating the test had been performed. Mr. Chairman, I have a copy of the paperwork referred to. There are no management signatures on it, none. Additionally, the FAA has asked each person who has signed for a portion of the work on this work sheet—incidentally every one of these people pay dues to Mr. Scheri's union—to verify his signature and confirm the work was performed, which they have done.

Mr. MOLINARI. Mr. Chairman, will you suffer an interruption?

Mr. OBERSTAR. Yes.

Mr. MOLINARI. May we have a copy of that record for the subcommittee's records here?

Mr. OBERSTAR. That's a very good suggestion. Will the clerk please make copies of the document and distribute them to members?

Has the FAA interviewed Mr. King, by the way since you mention that?

Mr. KOLSKI. It is my understanding, sir, that Mr. King went to the FAA and presented statements to the FAA. I cannot say precisely if he was interviewed.

Referring to the same incident, the Port Authority in Boston has confirmed that on the night in question, Eastern asked for and received permission to conduct the test, the very tests that Mr. King alleges were skipped. In summary, there is unrefuted evidence that Mr. King's charges concerning this incident are simply not true.

The second incident relayed by Mr. Scheri involved a fuel leak that a mechanic spotted and requested to repair, but the request was overruled by management and the plane took off and the leak was not recorded in the aircraft's maintenance records. Mr. Chairman, what was thought to be a leak was observed and proper troubleshooting techniques were employed. The fuel system was pressurized and the boost pumps were activated and no leaks were noted. Proper records were completed and have subsequently been presented to the FAA. I have a copy with me. Mr. Scheri said they didn't exist. What's more, while this incident occurred several months ago there has never been a reported fuel leak on that aircraft since that date. Again, unrefuted evidence that Mr. King's charges are false. And if the committee would like a copy of this——

Mr. Oberstar. I think we'd like to have a copy of that when the clerk comes back.

Mr. Kolski. The third incident claimed by Mr. Scheri involved the alleged illegal use of a quick-hardening plastic sealer to repair a fuel tank so that a Boeing 727 aircraft could take off. That a supervisor concealed the improper patch job by not recording it in the logbook. Mr. Chairman, when that leak was discovered the aircraft was removed from service and taken to the hangar where it remained for over 24 hours. That doesn't sound like quick hardening plastic sealant was applied so the airplane could take off. There was no quick hardening plastic sealer used. And no supervisor worked on the aircraft. Boston mechanics, again all paying dues to Mr. Scheri's union, repaired that plane in accordance with Eastern's Boeing 727 maintenance manual. The aircraft has flown for almost six months with no fuel leaks from the repair. Again, Mr. King's charges are false and Mr. Scheri has done a disservice to this committee by his erroneous report to you.

Mr. Scheri also advised you that Mr. Gilbert Butler, another Eastern mechanic, was suspended for speaking to a reporter. Not true. Certain statements attributed to Mr. Butler appeared in an issue of U.S. News & World Report. These statements as they appeared were untrue and damaged Eastern's business reputation. When Mr. Butler advised Eastern that he was misquoted and Eastern confirmed that fact with the reporter—I personally did that—the reporter confirmed Mr. Butler was misquoted. Mr. Butler was then returned to active service without loss of pay.

Mr. Scheri also reported that on July 30, Eastern canceled one flight and delayed three others in Boston in order to fix problems noted by FAA inspectors. What actually happened was that when an FAA inspector asked Eastern to justify the deferral of a small crack, the manual was consulted and a question arose as to the proper interpretation. Consequently Eastern, not the FAA, removed the aircraft from service and canceled the flight rather than operate the aircraft with a question as to whether or not it remained airworthy with that small crack. The three delays he referred to were the result of Eastern satisfying the same inspector that appropriate manual provisions had been complied with. No actual maintenance was performed before these three aircraft departed Boston.

Mr. Scheri also mischaracterized, as so many others have as well, Eastern's management incentive compensation program as one where additional bonus compensation is earned by management when airplanes get out of the hangar faster and incur fewer delays. Mr. Chairman, the incentive compensation program for Eastern's maintenance management personnel is based upon many factors besides on-time performance. Other goals in the plan include, but are not necessarily limited to, the minimum number of hours that mechanics must spend in training for that supervisor to earn his incentive compensation; or a reduction in the number of on-the-job accidents incurred by employees that work for him. Overall absenteeism rates is another factor in the program. A reduction in ground handling incidents is another factor in the program. And the number of MEL's that that foreman and his employees are able to clear are other factors in the program.

What's more, Mr. Chairman, this committee and this House have made it known that they are concerned about delays and what airlines are doing to lessen them. We do not believe all maintenance delays can be avoided. But we do believe that you expect us to do something about the unnecessary or avoidable ones. We are doing just that. I do not believe that any employee, management or nonmanagement, would risk his job, his license, or jeopardize the safety of an aircraft in return for a very small percentage of his pay.

In his efforts to bash Eastern, Mr. Scheri mentioned a recent incident involving a Boeing 727 that incurred a hard landing in Tulsa on the night of September 15, 1987. Mr. Chairman, the NTSB and the FAA and Eastern are still investigating that incident. It would be premature for me to comment on it, except to say that Mr. Scheri failed to relay a few important facts. First, the mechanics of another airline in Tulsa signed off the logbook by stating they had completed a hard landing inspection. Those mechanics determined the nature and scope of the inspection to be performed after consulting Eastern's maintenance manuals. Second, the same crew that flew the airplane to Tulsa flew it to Kansas City and Chicago the following day. They experienced no problems of any nature relating to the performance of that airplane. Lastly, the maintenance manager in Kansas City, Eastern Air Lines' maintenance manager, advised his mechanics that even though a hard landing had been properly signed off in Tulsa, and the captain was satisfied with the way the airplane was flying, if they wanted to write a maintenance discrepancy up in the logbook, they should do so. An exhibit attached to Mr. Scheri's written testimony clearly says this to be the case.

Eastern has not and will not take disciplinary action against anyone who incurs a delay or cancellation for legitimate safety reasons. On the other hand, Eastern will continue to hold its employees accountable for their actions. Employees who intentionally disregard safety requirements will be disciplined accordingly. Also, employees who disrupt the company's operations under the guise of safety will be held accountable for their actions. Mr. Chairman, the entire air transportation is based upon personal responsibility and personal accountability, whether it be signing a logbook or an airworthiness release, a dispatch release or a training record. Eastern's attempts to inject personal responsibility and accountability into other areas of the company are entirely consistent with this philosophy and it applies equally to management as well as nonmanagement personnel. We believe this is absolutely essential if we are to run an efficient, profitable, reliable, and most of all safe airline.

In closing let me read the following quotation from the recent FAA report on the operations of Delta Airlines:

> However, the team observed instances of lapses of discipline in cockpits. The presence of these behaviors is primarily due to a lack of clear cut, definitive guidance from those responsible for developing and standardizing cockpit procedures. Management has maintained a policy of delegating the maximum degree of responsibility and discretion to its crewmembers. However, in an increasing complex and stressful environment the limit of this policy appears to have been reached.

I appreciate the opportunity you have given to Eastern to testify before this subcommittee, and I would be happy to answer any questions you may have. Thank you.

Mr. OBERSTAR. Thank you, Mr. Kolski. Obviously it's been a very trying experience for you, and trying times for you and Eastern, and the emotion clearly comes forth in your voice and intensity of feeling over this matter. And again I want to reiterate we are not trying to be an arbitrator of issues between management and labor, but simply to get the facts on the record about maintenance, its conduct and the problems that occur and how to address those problems on a generic basis, although we do on occasion have to look at those problems through the prism of an individual incident or incidents.

What is—I ask the panel's reaction now, what is industry practice on matters such as reports by pilots or mechanics of inoperative systems or malfunctioning systems? For example, if a pilot reports that an altitude alerting system is inoperative, what is the procedure and whose judgement prevails as to whether that aircraft flies and under what circumstances? Mr. Rendleman?

Mr. RENDLEMAN. Okay this time?

Mr. OBERSTAR. Yes, we can hear you.

Mr. RENDLEMAN. First of all I'd like to say that we meet with our flight operations—we maintenance and engineering at Northwest meet with our flight operations group monthly. And one of the things that continually comes up is our encouragement of pilots to write every single item up in the logbook. We cannot correct a problem unless we know about it. And we don't want problems to continue in service, and can only continue to encourage our pilots to write things up.

In that particular example we have very detailed specifications both in our maintenance manual and our general maintenance manual about procedures and policies of how we handle things and that particular instance in the MEL. It would be Northwest policy that the item would be fixed when parts and people are available, as soon as possible. I'd like to emphasize that both of those have to go together. Mr. Kruse commented on ground time. Obviously if you're in a tight turn at an outlying station without proper parts, you would continue to fly it back to the next station as per the

MEL. But that would not be done without conferring first with maintenance control, issuing the proper paperwork for the MEL and returning the airplane back to the hub.

Mr. **Oberstar**. How many maintenance facilities does Northwest have in its system that are operated by Northwest mechanics, and how many contract facilities does it have?

Mr. **Rendleman**. Because of our fleet size, the domestic and international operation, and the diversity in our fleet—I think I mentioned that we have 6 different types of airplanes and 12 different series of those types—our line maintenance operation would be characterized not only as dynamic but ever-changing. We currently have approximately 35 line maintenance stations of the 130 some odd stations that we serve worldwide. Now, a line maintenance station to us is one where we have Northwest mechanics, tooling and parts, and schedule activity into that station not only during the evening, but also during the day as aircraft come and go into that station.

Mr. **Oberstar**. Of those 30, how many are domestic United States?

Mr. **Rendleman**. Seven are foreign. It's easier to answer that way.

Mr. **Oberstar**. All right.

And how many contract facilities do you have?

Mr. **Rendleman**. At every——

Mr. **Oberstar**. Domestically, I'm talking about.

Mr. **Rendleman**. At every location where we have aircraft we have what we call an on-call maintenance contract with somebody. Primarily it's other major carriers, but in some small cities like Shreveport, Fargo, places like that where other major carriers don't operate, we have on-call maintenance agreements with FBO's. We do not schedule maintenance in those locations. Those contracts, if you will, are primarily to return an aircraft to service if a malfunction or discrepancy occurs.

Mr. **Oberstar**. If at Fargo, you found or a pilot reported an inoperative altitude alerting system, and that was the—well I guess that's a determination in most Northwest flights—if that were an intermediate stop, and at that intermediate stop it developed that there was an inoperative system of this kind, and that is not a maintenance facility——

Mr. **Rendleman**. Correct.

Mr. **Oberstar** [continuing]. Do you consider that to be a continuation of a flight? Are there some conditions under which that flight would not continue then?

Mr. **Rendleman**. In that particular circumstance, most likely the pilot would confer with maintenance control and the dispatcher, and if the three agreed that it was safe to continue operation back to a maintenance location where the aircraft could be repaired, that would occur. If they determined it could not be, then we would send mechanics and parts to Fargo to fix the aircraft.

Mr. **Oberstar**. Is it practice for the captain to write that up in the log, or to note it otherwise?

Mr. **Rendleman**. No, he would write it up in the log and then we would MEL the airplane vicariously, if you will, by maintenance control and the captain and the proper paperwork would be accomplished.

Mr. **Oberstar**. If the pilot after taking off from any point at the beginning of a series of flights discovers the system to be inoperative, what is the procedure for the pilot?

Mr. **Rendleman**. Well generally that particular flight would be continued to the next landing, and then the same procedure that I just described would occur. In other words, a conference with maintenance control and a decision whether or not to continue the operation back to the maintenance base, or if that happens to be maintenance base, obviously it would be repaired there.

Mr. **Oberstar**. I'm trying to conceive of the range of circumstances. If that system were determined by the pilot before takeoff to be inoperative, and he were at say, Minneapolis Airport, or another maintenance facility, and it were the beginning of a flight not an intermediate stop, what then would be the procedure for the pilot?

Mr. **Rendleman**. Well, again different stations would have different techniques. But most likely, as Mr. Kruse pointed out, Northwest also operates with spare aircraft, especially at our hub locations. And most likely that particular airplane would be pulled out of service so it could be repaired and another aircraft substituted so that trip could continue without inconveniencing the passengers. If in fact there were no spare, then we would pull the airplane out of service and repair it and cause either a delay or a cancellation. And that's what we're talking about today. That's why delays and cancellations occur.

Mr. **Oberstar**. But there is a different judgement rendered if the aircraft is at an intermediate point which is not a major maintenance facility, or where you receive contract maintenance. In that case then your maintenance personnel will make a judgement as to whether conditions are safe enough to permit that aircraft to continue, is that correct?

Mr. **Rendleman**. Correct.

Let me get back to the three factors that really dispatch, if you will, an aircraft. The dispatcher and the pilot have to be in concurrence that the flight is safe to operate. Maintenance is more a secondary factor in that. What maintenance does is assure the airplane is airworthy before it is passed on to the pilot. The pilot ultimately can still refuse the aircraft if he does not deem it airworthy, or he and the dispatcher can deem not to fly the flight if there are other factors such as weather or some other factor.

Mr. **Oberstar**. Mr. Kruse, you've heard the questions; could you respond to the various circumstances that I've already laid forth? What is American's practice?

Mr. **Kruse**. Yes, Mr. Chairman.

It would be very similar to the comments made by Northwest. In the area of an inoperative altitude alert system, at the time when the flight is live and loaded with passengers, the pilot has absolute discretion. If he elects not to take the flight, that is accepted and alternative means for the passengers are undertaken. The company does reserve the right to investigate the situation fully and if the pilot was overly conservative to counsel him on what to do next time, once the facts are in. But while the flight is live, the pilot has the discretion to act as he deems appropriate, even if per the MEL or other manuals it would say that the airplane could be dispatched.

Mr. **Oberstar**. So the captain's judgement would be final even though he may be given a different interpretation by higher management?

Mr. **Kruse**. That's correct. If he wishes to be more conservative. It is not the captain's judgement if he wishes to take something that is within the MEL or our manuals or operating procedures or FAR's not allowed, it is not his discretion to violate that. He must not take it.

Mr. **Oberstar**. Mr. Kolski, what is Eastern's practice under those described circumstances?

Mr. **Kolski**. Mr. Chairman, an inoperative altitude alert system, like any other inoperative component on an airplane must be put in the logbook at the point of next landing. In the case of Eastern Airlines if that point of next landing is a place like Mobile, AL where we have approximately four flights a day, we do not have our own mechanics, we do not regard it as a major maintenance facility, and there are no spare aircraft, the MEL is consulted in the case of an altitude alerting system that is known as a "black border" MEL and that item can——

Mr. **Oberstar**. What do you mean by a "black border" MEL?

Mr. **Kolski**. Well, American mentioned it earlier. In an MEL list, which can number hundreds of components, there are a small number, depending upon the airplane, somewhere between a low of eight and a high of 15, which have a phrase which says "may continue in operation but may not depart an airport where repairs or replacements can be made." It is totally different than a discretionary item such as a third radio, or a third navigation system. Those items under the MEL may continue in service with the company electing when and where it is going to make that repair. In the case of those small number of MEL's known in American Airlines' language as black border MEL's, those can continue in service until it reaches an airport where repairs or replacements can be made.

Eastern's practice, when it reaches one of those airports, which is not necessarily an airport where mechanics are stationed, but an airport where Eastern stocks the part to repair that item, then if that part is there the airplane must be repaired before further departure. If the serviceable part is not readily available, Eastern Airlines' policy is to continue the aircraft in service until it reaches a station or an airport where that serviceable part is available. I would point out to you, sir, that under the FAR's every airline must make arrangements to repair its aircraft at every place it lands, whether through the use of its own employees, the employees of another airline, or the employees of an airline service company. The fact that an airline may position two or three or a half a dozen mechanics at a particular airport does not create an airport where repairs or replacements can be made, or create a maintenance base.

Mr. **Oberstar**. Are you familiar with the situation, Mr. Kolski, involving Captain Stradley who was faced with the problem of an aircraft with an inoperable altitude alerting system?

Mr. **Kolski**. I am not specifically familiar with that instance, but I believe there is an Eastern chief pilot sitting behind me who is.

Mr. **Oberstar**. Well, we had information about the incident in which the captain refused to fly an aircraft with an inoperable altitude alerting system. Eastern sent him a telex stating that the operation of that aircraft with an inoperative altitude alerting system is not in violation of Federal Air Regulations and was directed to fly that aircraft. The FAR says "continuing a flight as originally planned if the altitude alerting system or device becomes inoperative is"—the point I want to get to is the flight may not depart from a place where repair or replacement can be made. And the information we had was that Captain Stradley was at a point where you have a major maintenance facility.

Mr. **Kolski**. Mr. Chairman, I would like to comment on that.

First, the teletype. It is not totally uncommon for a captain or a pilot to come to a conclusion or question the legality of a particular operation. Sometimes he may run up against an FAA inspector who gives him bad advice. Sometimes he reads an FAR in the middle of the day and becomes concerned about the legality of the continued operation. It is not uncommon for him to seek counsel from his chief pilot who is more familiar with and more knowledgeable about Federal Air Regulations. If a pilot calls and asks a question about the legality of a particular operation—we're not dealing with safety, legality—it is not uncommon for him to receive advice that his proposed operation is not going to violate any FAR's and for him to request confirmation of that fact by a teletype.

Now, since well before 1978, and my experience takes me back to 1966 in this business, the determination of where black border MEL items are to be repaired is made by the carrier by positioning the serviceable parts at certain airports. This is an item which has received different treatment by different airlines across the country, and I am aware that currently the FAA in Washington is examining this very issue with an aim of producing some National guidance or National policy applicable to all airlines. However, I will tell you that in Eastern's manuals, going back to as early as 1960, when a serviceable part is not readily available at that airport, the airplane may legally and safely continue in flight or in service until it reaches an airport where a serviceable part is available.

I hope I was responsive to your question.

Mr. **Oberstar**. I'm still not—I don't think that the answer is responsive to the question or to the circumstance, because Captain Stradley received this telex from Chief Dispatcher Taylor, for Captain Stradley flying Shuttle Standby Aircraft 888: "This is to advise you that Aircraft 888, MEL Item 34-10-08, altitude alerting system inoperative, is legal to leave LaGuardia, and in no way violates any Federal Air Regulation. Aircraft is scheduled to be fixed tonight." This from Director Flight Training, Captain B.E. Beech. Chief Dispatcher Taylor, March 25.

The FAR says that the aircraft may not take off—the flight may not depart from a place where repair or replacement can be made.

Mr. **Kolski**. Mr. Chairman, if the serviceable part is not at that airport, repairs or replacements cannot be made.

Mr. **Oberstar**. How do you decide what is the continuation of a flight? What is your definition of continuation of a flight? Because from the information that we have, that aircraft had not—the inoperative condition did not occur in flight. It was noted by the pilot, by the captain, before that flight took off from LaGuardia. Was that a continuation—was LaGuardia an intermediate point? Did you consider LaGuardia then to be a continuation of a flight in that pattern of operation?

Mr. **Kolski**. No.

Each segment separates itself by a landing and a takeoff. When something——

Mr. **Oberstar**. Okay.

Then the aircraft was at LaGuardia and had not taken off——

Mr. **Kolski**. Then something was in the logbook which said this item was inoperative.

Mr. **Oberstar**. Right.

Mr. **Kolski**. Okay.

If it was an altitude alerting device, and if it was a 727 aircraft which I'm presuming it was by the number you just mentioned, LaGuardia is normally a place where those replacement parts are stocked. If that part was there and it was serviceable, that airplane should not depart LaGuardia until that part is installed and the system is made operative. However——

Mr. **Oberstar**. That's what I'm trying to get at. Why didn't it get repaired?

Mr. **Kolski**. Because there was no serviceable part at LaGuardia at that time.

Mr. **Oberstar**. But the FAR says that the flight may not depart from a place where repair or replacement can be made, whether——

Mr. **Kolski**. Mr. Chairman, I said——

Mr. **Oberstar**. It doesn't say if you don't have the part there. Either the FAR is unclear, or your procedures are perhaps questionable.

Mr. **Kolski**. If they are questionable, and they are being questioned, then they are questioned in the same way that every other airline in this industry has their procedures questioned. The application of the Minimum Equipment List on an altitude alerting device is no different at Eastern with respect to serviceable parts than any other airline.

Mr. **Oberstar**. Well, clearly I think you have a different interpretation of the FAR than the plain English of the FAR itself, and also then I presume of the FAA?

Mr. **Kolski**. Well——

Mr. **Molinari**. Will the chairman yield?

Mr. **Oberstar**. The clarification of that FAR is apparently under consideration by the FAA, but it is one that we think it's very important. This has nothing to do with the other issues that you were raising earlier, a matter of disgruntled pilots, or disgruntled mechanics, it's a matter of interpretation, clearly of how you interpret the Federal Air Regulation.

Mr. **Kolski**. Mr. Chairman, an airline must make arrangements to make repairs and replacements at every point it lands.

Mr. **Oberstar**. Yes.

Mr. **Kolski**. If your interpretation, as I think you are expounding it is correct, no matter where that airplane lands that repair could be made, and it can be made. An airline can dispatch parts and mechanics to that airport.

Mr. **Oberstar**. That's right.

Mr. **Kolski**. Okay.

The application of that language going back to the early 1960's has been that if the serviceable part is not available when it normally would be available, the airplane may continue in service until it reaches an airport where that part is available.

Mr. **Oberstar**. Have you received—you say that's practice. Have you received anything in writing from the FAA that clarifies, that explains the practice in the way you've just described it?

Mr. **Kolski**. Mr. Chairman, when an airline writes its maintenance manual and its maintenance procedures they are submitted to the FAA——

Mr. **Oberstar**. We're aware of that.

Mr. **Kolski**. There is an FAR which states that if the FAA wants to see a change it can insist upon a change. I have examined the MEL policies of just about every airline, at least every sizeable airline, in the United States over the last 60 days. And I can tell you that the FAA knows that it is practice at the overwhelming great preponderance—I didn't examine every one, and it has been that way for dozens of years, that when a serviceable part is not available a repair or replacement cannot be made.

Mr. **Oberstar**. Is it written up in the Eastern Airlines Maintenance Manual that if a serviceable part is not available at the maintenance facility, that this aircraft then will proceed to the next point where such part is available?

Mr. **Kolski**. Yes, it is, sir.

Mr. **Oberstar**. Would you submit that to the committee for our record at this point?

Mr. **Kolski**. Yes, I will.

Mr. **Oberstar**. Now the Chair would be glad to yield to the gentleman from New York.

Mr. **Molinari**. I'd like to just pick up on that a moment, Mr. Chairman.

It's Mr. Kolski's testimony that the airplane could continue on its route if the replacement part to cure that MEL was not available. And in this case I assume what you're saying is that no such part was available at LaGuardia Airport that day?

Mr. **Kolski**. I can't testify that from my own personal knowledge. I will tell you that that is our policy.

Mr. **Molinari**. All right.

Then I misinterpreted what you said. I thought what you were saying was that there was no such part at LaGuardia, and therefore under the FAR they were permitted to proceed.

Mr. **Kolski**. Sir, I have no personal knowledge. I would tell you if that airplane continued in service, the only reason it could continue in service with that part inoperative is if there was no replacement part available.

Mr. **Molinari**. Well, that's the question. That's the question that this subcommittee is looking at very carefully. I think that we need to know the answer.

If, for example, we found that there was such a part available at LaGuardia, then I think it would be a rather serious offense to allow that plane to fly on when the regulations provide otherwise. Would you not agree?

Mr. **KOLSKI**. I would agree. It would violate Eastern's own policy as well as the Minimum Equipment List.

Mr. **MOLINARI**. Okay.

Well, then let me ask you one further question on that score then. Is there some way or some inventory sheet that we could examine, the staff of this subcommittee, to determine whether in fact they had such a part available when that plane landed?

Mr. **KOLSKI**. If you will provide me with the date of this incident, I will attempt to research the matter and provide this committee with that data.

Mr. **OBERSTAR**. We'll provide you with the documentation the committee has available. Again, I just can't understand how the lack of a part as important as an altitude alerting system should be dismissed and the flight continue. Or why the flight was permitted to begin, in fact, because it was already on the ground. And it is at a place where it is convenient to move materials and move parts.

Mrs. **JOHNSON**. Would the Chairman——

Mr. **KOLSKI**. Mr. Chairman, if you would like to listen to a 727 captain who flies that airplane and relate——

Mr. **OBERSTAR**. You're the one that I'm asking. You're the one——

Mr. **KOLSKI**. Then I think we need to go back to the purpose of an MEL.

Mr. **OBERSTAR**. No. What I——

Mr. **KOLSKI**. For you to understand that an altitude alerting device is not required for the certification of that airplane. I would point the committee's attention to——

Mr. **OBERSTAR**. That's not at issue. What is at issue is the Federal Air Regulation and what it says.

Mr. **KOLSKI**. The Federal Air Regulation also permits a carrier to submit to the FAA a Minimum Equipment List for their approval. Under that Minimum Equipment List an altitude alerting device may be inoperative, but it may not depart an airport where repairs or replacements can be made. Now, I agree with you, the absolute literal interpretation of that phrase says every single airport, whether you've got your own mechanics there or not; whether you are in Europe, Asia, South America, or whether you're in Toledo. It can be repaired there, the absolute literal interpretation. However, the applicable interpretation of that language since at least the early 1960's when I came in this business, at every airline I'm familiar with says, and the FAA has agreed, that if the serviceable part is not at that airport, the airplane may continue in service until it reaches an airport where that serviceable part is available.

Mr. **OBERSTAR**. That's a matter we're going to explore further with the FAA, because this is a matter that is obviously at issue.

Mrs. **JOHNSON**. Mr. Chairman.

Mr. **OBERSTAR**. Yes.

Mr. **JOHNSON**. May I follow up very briefly on this same point?

Mr. **OBERSTAR**. The Chair will yield briefly.

Mrs. **Johnson**. Could you submit to the committee the operative language that governs your decision as to whether a part is of such importance that the plane cannot proceed as opposed to be allowed to proceed? If the Minimum Equipment List—if all of the parts listed on the Minimum Equipment List are not of equal importance, there must be some language, or there must have been developed some materials that govern the decision about whether a plane can proceed from Toledo or Singapore if this is the problem, and yet can't proceed if some other matter is the problem. I think that's what we need to be able to have before us, that operative language that governs the gray areas.

Mr. **Kolski**. The operative language you're referring to is contained in each carrier's Minimum Equipment List. And it is language in the remarks section of each component listed in the Minimum Equipment List. The Minimum Equipment List describes the number of the components that are usually installed. The next column says the number required for flight, and then there's a remarks column. In that remarks column it states the maintenance action that must be performed if it's going to continue in service without being repaired, the operations restrictions that could be placed on the crew or the dispatcher if it's going to stay in service and not be repaired. And then a very small number of MEL items contain the phrase, may continue in service but shall not depart an airport where repairs or replacements can be made.

I would be happy to provide this committee with a copy of Eastern's MEL's.

Mr. **Oberstar**. Well, what—if the gentlelady will suspend.

I have asked you for that language in Eastern's maintenance manual and I think we'd like to have that as soon as possible, because we'd like to see specifically the language that FAA has approved in your maintenance manual. If that is the condition under which you've been operating then that needs to be reviewed further under different light. But it does not appear to be a matter we can resolve right here.

The Chair recognizes the gentleman from Pennsylvania.

Mr. **Clinger**. Thank you very much, Mr. Chairman. Just two quick follow-ups.

I assume that there are some parts, which if they were inoperative, your manual and FAA would not have permitted the aircraft to leave LaGuardia without having repaired those parts, is that correct?

Mr. **Kolski**. That's absolutely correct, sir.

Mr. **Clinger**. Now let me ask that of the other representatives from Northwest and American. Do your maintenance manuals contain the same interpretation or different interpretation as Mr. Kolski has testified?

Mr. **Rendleman**. Absolutely. There are certain components on an airplane that you just can't fly without. For instance, a two-engine airplane has to have two engines. There are other components on an airplane, however, that are still contained in the MEL but are not really items necessary for flight. And a good example of that, I guess, is the seatbelt in the jump seat. If the jump seat is not occupied, obviously you don't need a seatbelt. And the airplane can be dispatched very legally with that item on MEL. So they run the gamut.

Mr. CLINGER. Would that be the same with American?

Mr. KRUSE. Yes, that's true.

I guess one additional comment though with regard to the item you've been discussing with Eastern. Over the last 2 years this has been an item of great discussion between individual airlines and various FAA regions. And the MEL requirements by the FAA we've seen changing over this period. Two years ago we might not have been required to fix the same part that was mentioned in the Eastern situation. But in the MEL's that we operate by today, a black border item, which it's my understanding that this system is, we have agreed that it will not transit a station without being repaired. It is our obligation to get the part there. And we have agreed that our normal aircraft routings which are up to 4 days between maintenance opportunities will not be exceeded. In other words, it must transit such a station within 4 days and when it gets there it must be fixed.

Mr. CLINGER. Let me understand. In the situation that we've been talking about, and I don't want to dwell on this forever, but the situation we've been talking about with Eastern, would you have held that aircraft at LaGuardia and flown a part to LaGuardia before that plane could have left, or did I understand you to say that it would have to be repaired within the four days at some location?

Mr. KRUSE. We have a list of stations, and LaGuardia happens to be one for a 727, we have a list of stations published within our MEL preamble and at those stations it cannot transit without being repaired. It must transit one of those stations within 4 days.

Mr. CLINGER. Well let me move to——

Mr. KRUSE. So it would have been repaired and it would have been on the ground until it was repaired.

Mr. CLINGER. Let me ask all of you one question. We had testimony yesterday that suggested that since deregulation there has been such an erosion of the standards involving maintenance and a general erosion of the safety standards that the only solution to this problem and the only way to restore the confidence in the airline industry would be either partial or total reregulation of the industry to ensure that the safety was paramount. What would be your reaction to this suggestion? Do we need some measure of reregulation at this stage or not? And if so, how much? And I'd ask all of you to respond to that.

Mr. KRUSE. I guess I'll take a shot initially. We have never been deregulated from the standpoint of operations. We are as—I think we'll all agree—closely regulated. I presume you're referring, as far as reregulation, to the area of relative stability prior to 1978 when prices and routes were regulated.

Mr. CLINGER. Which has placed you under a crunch in terms of being competitive and being productive.

Mr. KRUSE. I think all of us had fears and some were more farsighted than others as to the magnitude of the turbulence that would be created by deregulation. And many advocated not deregulating. I think the vast majority of the turbulence is now behind us. I think the major benefit that was expected has been achieved, and that is lower prices for everyone. So at this point I would not advocate going back. Having gone through that agony, positioned ourselves to operate in a fully competitive environment, I think we are there. I think we need to be sure that maintenance and flight operations activities and pilots are well qualified and are stepping up to their jobs. But I don't think the answer is to go back to price and routing regulation.

Mr. CLINGER. Let me say this. You indicate that your airline welcomed a close partnership with the FAA in terms of inspection, and you expressed some concern that perhaps we did not have sufficient manpower resources in the maintenance inspection activities of the FAA when compared with their total operation.

Mr. KRUSE. Well we certainly see no shortage at American. What we continually wonder, and have told them, that we will meet whatever requirements the FAA applied, but for competitive reasons we have insisted that whatever they apply to us, they apply to every other operator in a uniform manner.

Mr. CLINGER. Mr. Rendleman, what would be your feeling on the reregulation issue?

Mr. RENDLEMAN. Mr. Clinger, I have to go along with Mr. Kruse in his first statement, that in the operations area there has been very little change. It was a regulated environment before deregulation and it still is regulated. I personally was a pilot with another airline in 1979 and went through this transition. And from a pilot's perspective there was no change. A route system change, number of departures change, utilization on individual equipment types change, but from how we flew airplanes, there was no change.

The biggest change today has been a more aggressive environment that we operate in. My colleague from Eastern, I think, mentioned that they meet periodically with a market planning group to decide where the airplanes are going to operate. We do that as well. In fact almost on a daily basis. And in every schedule change we have a challenge to make sure the right parts are in place, the equipment and tooling for that particular airplane type if it's going to change from one location to another, et cetera, are all there. But as far as a regulated environment, we are working very closely with the FAA to keep the internal pressure on to uphold the safety standards that Northwest has long had.

Also I must agree from the passenger perspective that a deregulated environment certainly offers lower fares and more opportunities for travel. I think that's indicative of the fact that our number of passengers flying today far exceeds those in 1978.

Mr. CLINGER. Okay.

Mr. RENDLEMAN. But I don't think it has taken away anything from the safety aspects of maintenance, engineering and operations.

Mr. CLINGER. Mr. Kolski.

Mr. KOLSKI. Mr. Clinger, I echo the comments of my colleagues here. My own personal experience tells me that airline operations and maintenance, the way we fly airplanes and the way we maintain them, are more safe today than they were pre-1978. The reason they're more safe today is because the dog doesn't bark when the FAA comes around.

Airlines see the FAA more and more since deregulation. The FAA has been more conscious of their obligation and have put greater requirements on airlines than before deregulation. I don't think the issue of safety should have anything to do with whether or not the people who write the laws in this country reregulate the airlines. I don't think it has anything to do with it.

I would also like to comment on your earlier statement when you introduced the question, namely that the erosion of safety standards or, I think you meant the margin that was talked about yesterday, to FAA minimums. I hope this committee doesn't get the impression that FAA minimums are something which are on the razor's edge of safety. That if you went over those FAA minimums, or under them, that all of a sudden you were unsafe.

The Air Line Pilots Association represents pilots on about 40 airlines, I think. That means they have 40 labor agreements. I bet if you picked up 38 of them you would find language which says the physical standards required to be maintained by pilots to continue in the employ of this airline are those established by FAA minimums. You would find language which says that when a pilot takes a proficiency check, the standards employed are those established by FAA minimums. Pilots work with minimums every day. They provide a margin of safety far in excess of what is considered unsafe. When an airplane taxis out to the end of the runway, that controller, that ATC system and that pilot knows that he'll take off if minimums are present. He doesn't make an independent judgement which says,

> Well, gee, I don't think there's enough visibility even though the minimums allow it. The minimums provide a fair margin of safety over and above what is unsafe. When an airplane is in a traffic pattern, arriving at LaGuardia, and the weather is not ideal, there are minimums which exist which he can descend to. If he fails to descend to those minimums, he is going to create havoc in that traffic pattern for LaGuardia. Pilots work with FAA minimums every day. The great preponderance of the way airlines operate are with FAA minimums. And they are far in excess of what could be considered unsafe. There is a margin of safety built into them.

Mr. CLINGER. Okay.

Let me just conclude with one other question. I think you've all indicated that you are now devoting more of your resources to maintenance than you were before deregulation. Is that correct?

Mr. KOLSKI. That's correct.

Mr. CLINGER. But part of that is obviously because of the thing that you alluded to, Mr. Kruse, which is that under the hub and spoke system you have had to diversify and provide for maintenance at a larger number of sites and locations as you did in the past. Is that correct?

Mr. KRUSE. That's true.

Mr. CLINGER. Is there a risk in the hub and spoke system where you are not able to centralize your operations as much as you could in the past, that we have eroded the safety umbrella. That perhaps things are not quite as controllable by you because you have diversified your maintenance operations as much as you've had to do?

Mr. KRUSE. I would say they were to the extent that increasing numbers of open items were being carried on a daily basis on airplanes. I think that opening, if you will, is the one that has been bored in on by the FAA and the airlines, and we are consciously trying to close.

The logic, although each one of those systems, in itself, the engineering judgement has been made, it can be dispatched inoperative, there is a more insidious factor that arises. When you allow multiple systems to remain inoperative for extended periods of time, your overall level of redundancy in the airplane is reduced. That the analyses done on an individual system did not assume that every other item in the MEL list was also inoperative. So that level of risk made people uncomfortable and made us then begin to pursue, well how many for how long? And to set our own standards, which I believe is a correct way to do it, within the airlines of keeping the number of inoperative items and the duration that they're inoperative to an absolute minimum.

Mr. CLINGER. Do you have a maximum number of days for which a deferred item can be carried on a maintenance log?

Mr. KRUSE. No, we do not have a maximum number of days, per se, for any open item. I mentioned to you we have a maximum for what we consider priority or black border MEL's. Beyond that is that it is at our discretion.

Mr. CLINGER. What about Northwest, Mr. Rendleman?

Mr. RENDLEMAN. There has been a distinct advantage to the hub and spoke system to our maintenance concept. Let me give you an example. Northwest used to have a flight that began in Seattle, went to Spokane, Fargo, and then the Twin Cities. And it was at a maintenance base on departure and at arrival in Minneapolis. Now we serve Fargo with an out-and-back, Minneapolis, Fargo and back. Spokane the same way, and Seattle the same way. So the airplane that went to a maintenance base once out of every four stops, now is in a maintenance base every other stop.

By staffing our hub and spoke adequately, and by having a number of parts there adequate for the service level, we're able to do many different things. And one of them, unfortunately inconveniences the passenger, but allows us to fix an airplane on this short turnaround. For instance, an airplane arrives, one of the first into a 40-bank hub, is scheduled to be on the ground for 45 minutes, but it has a maintenance problem. We're able to pull that airplane off and work on it and swap equipment so it goes out as the last aircraft out of the hub, rather than in the middle or in the beginning of the hub. And gives us adequate ground time to repair that particular airplane. So from those perspectives, the hub and spoke has worked to our advantage.

Mr. CLINGER. In other words, you're saying that the short turnaround time that you have under a hub and spoke system, where you're flying it back and forth pretty regularly, has not been a deterrent to you to be able to accomplish maintenance at the hub?

Mr. RENDLEMAN. It has certainly required us to increase our staff, our inventory of parts, and make us more aggressive in the way we tackle maintenance problems. But it has certainly not deterred from the effort of keeping deferrals and MEL's at their minimum.

Mr. KRUSE. I guess I would comment that the one thing Mr. Rendleman mentioned, though, that affects utilization, is he said if they have a problem, they allow an airplane to not depart in one bank but to wait until the next. That is to the detriment of utilization, which is one of the things we mentioned, the routing formula. In other words, if he stays in the same bank—and a bank or a complex is a group of flights that arrive, exchange passengers and the same group of flights leaves. Now that turn time on the ground does not lend itself to many maintenance activities that are required. One of the techniques, and I guess you might list that as a fourth one that I mentioned to living with hubs, is to arrive with a number of airplanes and to leave with maybe one fewer airplane and allow then the opportunity for one airplane to not depart with that bank, but to wait until the next one. Then what you leave yourself is an opportunity to substitute that extra airplane on any of the flights that can't make the departure. Do you follow?

Mr. CLINGER. Yes.

Mr. KRUSE. It's really a way of backing up a series of flights with an airplane without taking it out of service entirely, but to simply skip a departure. We call it crank down or move up capability. And that's one of the techniques that is being experimented with by all of us to live with hub and spoke operations.

Mr. CLINGER. Did you have something you wanted to add?

Mr. RENDLEMAN. Yes.

We try to do that to absolutely limit the inconvenience we cause passengers. But in a hub and spoke operation, there are usually flights that depart—for instance, we have flights from the Twin Cities to Chicago almost hourly. So by missing one of those particular flights, we can still accommodate the passengers on the next flight, and not cause them inconvenience and at the same time get the aircraft repaired. So we're doing magical things with hub and spoke in order to allow us to have adequate ground time, even during the day, to work on the aircraft.

Mr. CLINGER. Thank you very much, gentlemen. Thank you, Mr. Chairman.

Mr. OBERSTAR. The Chair recognizes the gentleman from Georgia.

Mr. ROWLAND. Thank you, Mr. Chairman.

I want to talk a little bit more about the hub and spoke. Now you've certainly given some explanations about how to not in any way jeopardize maintenance of aircraft, which I had thought could be a possibility under the hub and spoke arrangement since hearing that there may be a deficiency in the number of mechanics away from the hub. There may be mechanics with less than adequate training away from the hubs. I guess the possibility of parts has to be considered too.

Mr. Kruse, you mentioned earlier that you were reluctant to change schedules because you want to minimize ground time at the hubs. If you minimize ground time at the hub, then you don't have much time for maintenance and that's where your principal maintenance station is, so it was somewhat confusing to me to know how you were going to continue to have good, adequate maintenance under the hub and spoke arrangement based on what I have heard. And you've addressed some of that.

Do you have any additional ways that you are trying to achieve maintenance away from the hub and still not have lost ground time at the hub because of necessary maintenance that might be required?

Mr. KRUSE. Well, I mentioned three ways in which we had reacted to that, and a fourth one has come up, which I wasn't going to get into. That's the capability to move up airplanes. We have utilized all four of these methods. Spare aircraft, more maintenance stations as you can see from my report, we've gone from some 18 maintenance stations to 28, which have 24-hour coverage and are capable of clearing any black border MEL. The number of maintenance stations which we staff has gone from some 25 cities to 39. And all of these are moves at considerable expense to accommodate the shorter ground times at the hubs.

Now in addition, we've got the airplanes on shorter routings, which was the last way we've moved up on the maintenance problem, and that is to limit the number of days that it can come and go from the hub before it gets an overnight maintenance opportunity where we can clear the logbooks, perform the routine maintenance——

Mr. ROWLAND. Preventative maintenance?

Mr. KRUSE. Preventative maintenance, and non-routine maintenance, or correcting items that have gone wrong during the operating day.

Mr. ROWLAND. Now that's true for American Airlines. How about Eastern and Northwest Airlines? Do you have an increase in the number of maintenance stations outside of the hubs as does——

Mr. KOLSKI. Yes, sir, we do.

In the last 3 years we have increased the number of stations where Eastern employs its own mechanics from 31 to 39. Let me point out some of the things, though, that an airline like Eastern and others have done to compensate for the special operational and maintenance problems presented by a hub and spoke operation.

The repair of an aircraft with a pilot report of a malfunction, although we would like to say that we do it right every time the first time, the fact of the matter is in today's complex aircraft, troubleshooting is the key. A mechanic can troubleshoot a problem and elect a fix. He can install that part or that fix believing he has corrected the problem. Unfortunately sometimes in a small minority of the cases, that fix didn't correct the problem. Hub and spoke brings the airplane back to that major maintenance base on its next landing, giving you another opportunity to troubleshoot it.

At Eastern we have developed a computerized logbook system, which allows a mechanic to record the troubleshooting techniques he's employed so that it's available for the next time that airplane is going to hit a station where maintenance is. In advance of that airplane's arrival, that mechanic knows what has been done on that airplane and so he doesn't go back and trace the steps that had been previously performed. Airlines have also resorted to what's known as field service trips. With a maintenance problem on an airplane that is going to overnight at a station like Mobile for Eastern, where it does not employ mechanics, Eastern will dispatch mechanics from Atlanta with the appropriate parts on the last flight from Atlanta to Mobile. That airplane will be repaired overnight. The concepts employed by American at their hub, rolling aircraft, spare aircraft, holding one aircraft out of the bank for repairs, are all techniques that can be employed to compensate for the special problems associated with the hub and spoke operation.

Mr. RENDLEMAN. I'd like to start out, Mr. Rowland, by saying that the techniques you've heard employed by American and Eastern and Northwest are also probably employed by United and TWA and all the other major carriers, because we're all faced with the same situation. I think we have taken very aggressive action to try to solve some of our problems.

At Northwest each aircraft gets what we call our line check every day. A line check being the lowest level of maintenance where a mechanic walks around the airplane, checks the logbook, performs fluids checks and other things. Each pilot report is entered into our computer logbook at the next maintenance location when that entry can be done. And that discrepancy and each troubleshooting activity that goes against that discrepancy is on line in our computerized system. So if a mechanic meets the airplane and knows it has a problem, or before it comes in he pulls up its history and sees it has a problem, he knows all the troubleshooting techniques that have been applied trying to solve that problem, and doesn't have to start from scratch. This has aided us in our hub and spoke, where, as I mentioned, we have maintenance coordinators in our control towers, our hub towers as we refer to them. And prior to a bank, one of our coordinators will pull up the history on each of the aircraft, look at the discrepancies, assign the parts and the mechanic to meet that aircraft at the gate, and attempt to clear as many of the deferrals as at all possible. If that's not accomplished, then we relay that information to the overnight station by another computerized work package where the mechanics will have every opportunity to continue to troubleshoot that problem and have adequate parts and time, in this case, to clear any discrepancy that they may find.

Mr. ROWLAND. How many substitute aircraft do you have? You mentioned substitute aircraft.

Mr. RENDLEMAN. It varies with each schedule change. Minimum, we have a narrow-bodied airplane at each of our major hubs, Detroit and Minneapolis in our case. At this time of the year, we've passed the summer peak and we're kind of in the slack period before Thanksgiving, we also have a DC–10, a wide-body aircraft at Minneapolis as a backup, as a spare aircraft.

Our international operation, which uses not only 747, but also the DC–10, has certain flights that only operate 3 or 4 days a week, and consequently the days those flights don't operate, we also have spare wide-body equipment to back those up. So again, it varies depending on type of equipment, hub and location, and season of the year.

Mr. ROWLAND. Let me make a comment and ask a question specifically about Eastern. I fly Eastern often, so I don't consider it to be an unsafe airline, obviously, or I wouldn't fly it. But you presented some charts here earlier that I want to ask some questions about, and you talked about avionic parts and windshield replacements.

As a percentage of maintenance compared to operating cost, is it higher or lower with Eastern as compared with other airlines?

Mr. **Kolski**. I don't have specific knowledge. I think in my testimony I stated since 1985 as a percent of operating costs Eastern's maintenance and engineering expenses went from 8.1 percent to 12.1 percent. I believe, but I cannot testify that Eastern, if it is not the highest in the industry, certainly ranks among the highest as a percent of operating costs, its maintenance and engineering expenses at 12.1 percent. I know that just based upon the comparison, I think, we heard American state that its maintenance costs per available seat mile is at .7 cents. We are going to be over .9 cents in 1987, maintenance cost per available seat mile.

Mr. **Rowland**. I'm interested to know whether or not that is about the same as it was a year ago and whether or not it was about the same as it was prior to takeover by Texas Air?

Mr. **Kolski**. Texas Air takeover was November 1986. The cost in 1987 will be 12.1 percent. In 1985, which is the only figure I can remember is 8.1 percent. But I will provide that data to you for the intervening years.

Mr. **Rowland**. I'd like for you to do that, and I sure would like to know about the other airlines, too. The percentage of maintenance costs as compared with total operating expense.

Mr. **Kruse**. I can just tell you for American, our maintenance cost per ASM is available in my paper submitted back through 1984, I believe. And our percent as a percent of total DOC, direct operating cost, is 10 percent.

Mr. **Rowland**. That's a little bit higher than what you mentioned then, wasn't it?

Mr. **Kolski**. It's slightly lower.

Mr. **Rowland**. Oh, slightly lower. Okay.

Mr. **Rendleman**. Mr. Rowland, we tried to gather some data out of Form 41 so that my testimony would not be in conflict with something that Northwest had already presented. And looking at those numbers, it's awful hard to track because they're not really apples-to-apples, how those numbers compare across the industry.

One thing I might add that we found out in looking at percentage of total operating expenses, that Northwest was extremely high on fuel costs. And that's primarily because we operate so many wide-body airplanes under such long duration. And our 747, our fleet of 40, have really pushed the scale to the opposite ends in our fuel expenses, which is also a percentage of operating costs.

Mr. **Rowland**. Well, I guess what I meant by percentage of operating costs, maintenance was what I was specifically referring to.

Let me just ask one last question of all of you. Do you feel that the pressure of competition after deregulation has resulted in any decrease in the margin of safety so far as the aircraft maintenance is concerned?

Mr. **Rendleman**. As I said earlier, the rules, regulation, procedures, operating specifications, et cetera, that we operate under today, are the same rules that we had in 1977, before deregulation. I will admit that the pressures have increased, especially because of the hub and spoke system, the increased utilization of the airplane types, the fact that we have older aircraft in our inventory than we did at that time, because we're keeping aircraft longer, and just because of the size and magnitude of the operation today. There are more people, there are more dollars spent, there are more parts. Having said that, we as managers are always a step ahead what we hope is a potential problem. And as I said, we have a very intensive internal audit program at Northwest. The sole function of those auditors is to look at everything that we do, everything that our contractors do, and other outside vendors to ensure that we're always a step ahead of problems.

So I'd have to say, overall, I do not think there has been a deterioration of the safety system in maintenance and engineering at Northwest Airlines.

Mr. **Rowland**. Mr. Kruse.

Mr. **Kruse**. I would agree with that statement. Maybe what you're looking for, and I'll share this view with you, I feel that the absolute levels of safety as substantiated by our fatalities per million hours, and whatnot, have continued to improve through deregulation. I would concede however, that the rate of improvement may have been slowed by some of the competitive forces at work through deregulation.

Mr. **Rowland**. Mr. Kolski.

Mr. **Kolski**. Sir, I can tell you from my personal experience at a major airline from 1966 through 1980, that's prederegulation and a couple of years after, at an airline which was a product of deregulation, a so-called new entrant from 1980 to the end of 1986, and at Eastern since 1987, I have never experienced or been involved with an operating decision in maintenance or in flight operations where the pressures of deregulation played a part in that operating decision. I have seen and experienced managers and management being cost-conscious, but I have never seen or experienced or felt a situation where people were compromising safety in the interest of dollars. I've seen many, many dollars being spent where it could be argued they did not have to be spent, but they were spent in the interest of compliance with regulations and with safety, and with the knowledge that there was no way in the world the FAA or anybody else would know. That's my own personal experience at three airlines, pre- and post-deregulation.

So my personal opinion is I do not believe the pressures of economic deregulation cause maintenance and operations management to make decisions that have an adverse affect upon safety.

I do have, by the way, and would like to read into the record for your benefit, the maintenance expenses as a percent of total operating expenses at Eastern. In 1983, 8.74 percent; 1984, 9.29 percent; 1985, 8.12 percent; 1986, 11.33 percent; 1987, year to date, 12.08 percent. You asked about Texas Air. I believe the actual transaction occurred in November of 1986, but the arrangements were known about in about the middle of 1986. So since Texas Air acquisition of Eastern, maintenance expenses as a percent of total operating expenses have continued to go up.

Mr. **Oberstar**. Will the gentleman yield?

Mr. **Rowland**. I'll yield on that point.

Mr. **Oberstar**. For the purpose of comparison with other figures that we have that are calculated on a different basis, would you please express that information, submit it for the record on the basis of cost per available seat mile?

Mr. **Kolski**. Yes, sir.

Mr. **Rowland**. And I'd like to have comparisons from other airlines too, Mr. Chairman.

Mr. **Oberstar**. We have that.

Mr. **Rowland**. We have that?

Mr. **Oberstar**. We have that information and we will amplify that information for the record.

Mr. **Rowland**. Thank you very much, gentlemen. Thank you, Mr. Chairman.

Mr. **Oberstar**. The Chair recognizes the gentleman from New York, Mr. Molinari.

Mr. **Molinari**. Thank you, Mr. Chairman.

What we've heard today in the earlier testimony, is that the carriers, your carriers, have undergone more frequent examination by FAA. They're visiting more often than they did previously; there seems to be a fairly good working relationship between the carriers and your safety management people, and yet we have heard Mrs. Dole repeatedly call for increasing the fines for safety violations from $1,000 a violation to $10,000 a violation, 10 times the amount that was in existence. Her statement was that it was required as a deterrent to the carriers.

Now Mrs. Dole and I don't agree on a lot of matters and haven't agreed in the past. How do you reconcile her statement after the FAA came back after these numerous inspections, reported back to the Department of Transportation, and then she comes up with a recommendation to increase ten-fold the fines for safety violations? Mr. Rendleman?

Mr. **Rendleman**. I'm not sure I know the context nor the background of Mrs. Dole's statement. So I'd rather not comment on that directly. In other words, why she thinks the fines ought to be raised.

Mr. **Molinari**. Well, take my word for it. A prime reason was deterrence, all right?

Mr. **Rendleman**. I think you see before you today, some representatives of major carriers who feel that safety has not been compromised since deregulation. As we all admitted, our lives have certainly changed, but I think we've stepped up to that. I am a product of deregulation and have lived through a bankruptcy and now a merger. And there are other carriers out there that I am aware of that do not have the attitude nor the capability to perform maintenance today the way Northwest does. I would just have to speculate that her comments were geared more toward those carriers than it would be the major carriers that you see represented here this morning.

Mr. **Molinari**. So that you would believe—you wouldn't object then I guess to such a proposal?

Mr. **Rendleman**. No, I would not.

Mr. **Molinari**. I'm happy to hear that.

Mr. Kruse.

Mr. **Kruse**. I would not try to reconcile the proposal that the fines be increased by an order of magnitude of 10. I think that is a bad idea.

Mr. **Molinari**. Do you think that an increase is in order? It's the magnitude of 10 that disturbs you?

Mr. KRUSE. No. I don't think an increase is in order. I think the provision is there to provide ample punishment, if you will, to those who don't follow the rules with the current $1,000 per occurrence. I think raising that by any substantial order of magnitude puts such a threat of economic destruction on any operator that it likely to drive violations underground, where airlines today report of their own free will to the FAA on problems and/or errors in operating practices, to a great extent, or mechanical difficulty.

So I think it is a logical thing to say, well if you increase the fine it will provide a deterrent. I think one has to look deeper at how that is likely to manifest itself in the real world. And I for one don't share the view that increasing the fines over what they are today, which as you've read in the press can be substantial with their enforcement capability today. I don't think that additional dollar amounts are necessary to achieve the goal.

Mr. MOLINARI. Mr. Kolski.

Mr. KOLSKI. I agree with the statements made by American and Northwest, but I'd point out if you asked me to justify why Mrs. Dole may believe that's necessary. Consider two violations. One in which a passenger when he embarks or leaves the airplane removed the airworthiness certificate from the bulkhead as a souvenir. That aircraft, if it takes off violates an FAR, whether the airline does it intentionally or unintentionally. If at the next point in landing an FAA inspector happens to notice that that certificate is removed, the airline can face a $1,000 fine, and would likely receive it.

Compare that violation to one in which a carrier knowingly and intentionally dispatches a non-airworthy airplane. Perhaps the Secretary feels in those cases a $1,000 fine is not sufficient. From my experience, the factor of a fine never enters into the deliberations I've entered into, or I've been a part of, or I've experienced with respect to operations. It's either right or it's wrong. It's either airworthy, or it's not airworthy. There is no gray area between well, it may not be legal, but it's safe and we only risk a $1,000 fine. I don't think that will change if you made the fine $50,000. So I don't agree it's necessary to increase it.

Mr. MOLINARI. In your earlier example, I think the existing regulations are such that Mrs. Dole had the discretion. If you could establish that somebody walked off with the operating certificate, I'm sure that no fine would be levied in that case. But, you say—let me ask you this.

Mr. KOLSKI. Could I quote you to her when we get one?

Mr. MOLINARI. Well, now you've been hit with a $9.5 million fine, and when I saw that, my impression was that from a public relations standpoint had to hurt. It was the largest fine in the history of the country. And we've had other fines in excess of a million dollars levied by the FAA, and you would expect that that would be enough of a deterrence because of the impact of losing passenger fares, et cetera. And that's why I think her statement, following such unprecedented fines, that we need to increase the amounts of those fines, takes on extra significance.

Let me turn to another subject. We've heard figures quoted here today about how much the carriers are putting into maintenance and in most cases it appears that I guess most carriers are increasing the amounts of money they're putting into maintenance. The question I would have, and I don't think it's been addressed, is is there any relationship between the age of the fleet today and if it's an older fleet, therefore there'd have to be extra maintenance costs incurred by the carriers?

I see Mr. Kruse nodding, yes. Maybe we should start with you, Mr. Kruse. That has not been addressed, and I was wondering whether that's a factor?

Mr. **Kruse**. The age of the fleet very much affects the necessary costs in maintaining that fleet. We have estimated that one year of aging on American's fleet, which today I think our fleet average is around 9 years. One year of that aging increases our maintenance cost by $35 million.

Now——

Mr. **Molinari**. Does that stay constant? In other words, 10 years would be the same figure or thereabouts?

Mr. **Kruse**. Absolutely not.

That is an incremental number. In the 9th to 10th year, those numbers are lower in the early life of an airplane and they are larger in the later life of an airplane.

Mr. **Molinari**. So that if we went to an 11th, 12th, we could expect progression in even higher maintenance figures?

Mr. **Kruse**. Yes.

But the biggest rates in increase come in the early years. And then there is a relatively flat area, and in fact it does taper off to some steady state rate after 20 years.

Mr. **Molinari**. Then I guess it's the fair question to ask of the panel in the quotation of these figures, if we may be getting a misreading here, those of us in the subcommittee, that a good portion of those figures might be attributed not to a dedicated desire so much—I'm not questioning that—but more to the requirement because of the age of the fleet?

Mr. **Kruse**. You very well could. I don't think you are. I think those ASM costs would tend to indicate that we are spending more relative to a constant fleet age. Now, while it is true that all fleets are aging, we are taking today new aircraft at the rate of three to four per month, and our average fleet age is decreasing. Therefore the costs that we have referred to here would be conservative rather than misrepresentative because our age is becoming less.

Mr. **Molinari**. May I just ask you one further question, then. In view of your company's policy, does there reach an age of a plane, when because of that age it's just permanently removed from service with your company?

Mr. **Kruse**. There, in previous generations of aircraft, were finite structural lives beyond which the manufacturer did not recommend flying them. That is not true of the preponderance of commercial jet liners today. They have, with ever increasing degrees of structural maintenance, indefinite lives, if you will. The only thing the manufacturer or the basic airworthiness of the machine that might dictate its life is it's economic death, in that progressive increasing structural inspections might make the costs, or more likely the out-of-service time prohibitive to the carrier.

We've found at American, the limiting factor is the out-of-service time we're willing to tolerate for these mods, not the dollars.

Mr. Molinari. Mr. Rendleman?

Mr. Rendleman. I have to agree with Mr. Kruse, that as aircraft get older they certainly require more maintenance. I think additionally to that, we have seen recently a lot of additional requirements, that we agree with, to improve the safety of the aircraft. ACARS was a system that most operators install so that it could communicate better. We are about to begin installation of TCAS. Northwest has done that on one of our MD-80's already, wind shear. These additional systems as they are engineered and are installed in the aircraft obviously require more maintenance for the installation and for the down-line maintenance.

But I think the big increase that we can point to in our total increase in maintenance expenditure, is a derivative of the hub and spoke, that we now pay more attention to line maintenance aircraft because we do not have a large out-of-service time during the day where aircraft can be worked on, and because they must depart the hubs in order to keep the schedule frequency alive.

Mr. Molinari. Mr. Kolski.

Mr. Kolski. In answer to your question, sir, all things being equal the answer is yes. As an airplane would get older, additional dollars are necessary to maintain it, and therefore while you have appropriately noticed that everybody's maintenance cost as a percent of total operating expenses has gone up, that may be in part due to the fact that fleets may be getting older, or they may be getting younger and costs going down. Every new airplane enjoys a maintenance honeymoon in which the maintenance costs are relatively minor. A great deal of the way in which the cost would go up over years depends upon how you maintain that airplane. You remember the Fram Oil commercial, "You pay me now or you pay me later." An airline's maintenance program can be structured so that its costs are reserved for years down the road, or it can be structured in a way in which the airplane maintenance costs are spread out over years.

But in answer to your question, all things being equal aging of the fleet would increase the maintenance cost.

Mr. Rowland [presiding]. Will the gentleman yield? Go ahead.

Mr. Kolski. Airlines will remove airplanes from service because they are no longer economical. Maintenance cost is only a factor. You might remember in the late 1970's when the price of fuel got as high as it did get, that the prediction was that every 727-100 would be buried in the desert somewhere. And yet there are hundreds of them flying around this country producing profits for airlines.

Mr. Molinari. I'd be glad to yield.

Mr. Rowland. This is one of the questions that I asked earlier, operating expenses as a percentage of total cost. And they said you had gone up. Is Eastern's fleet aging? Would that be a significant factor in the increase in costs?

Mr. Kolski. It would be a factor. I'm not sure how significant it would be. But it would be a factor. Eastern's fleet over the last 3 or 4 years has been aging, yes, sir.

Mr. Rowland. Well, that could be a factor. Would that be a factor with——

Mr. KOLSKI. I don't think it would be a factor to account for a 50 percent increase though. No way.

Mr. ROWLAND. I see.

I thank the gentleman for yielding.

Mr. MOLINARI. You're welcome.

Mr. Rendleman, you mentioned two topics, TCAS and wind shear, as increasing cost factors. I think, and if I'm not mistaken, Mr. Kruse, it was your testimony earlier that FAA should not react to public pressures from the outside and that this could create undue pressure upon the carriers, and that they should be doing what they're normally expected to do without outside influences. And yet, this subcommittee last September had FAA officials very candidly admit that as a result of the crash in Cerritos, that FAA did react and force the Mode C transponders to be installed, required more money be spent for TCAS and implemented the TCAS II program, increased the TCA space, et cetera. And then when I asked the question about the Delta crash in Dallas, and wasn't it a fact that as a result of that tragedy, that that was one of the causative factors in having them spend more money on Doppler radar, aviation training for pilots and whatnot, and they very candidly said, yes, in fact it was.

So here we heard testimony from an FAA official saying that because of the tragedies, and of course the public outcry that resulted from those tragedies, they then expedited certain programs which some of us felt should have been implemented a long time before. So that I think that's a bad way to go. I think you probably agree with me. I would rather see FAA and the carriers work cooperatively to put some of these safety systems into place because they should be implemented and not because a tragedy occurs. And yet we've heard testimony saying that in fact that's what happens. So that when I hear you say that they shouldn't react, and I'm sitting here saying, "My God, no maybe they shouldn't react. They should act in the first place." They haven't in many cases. And that's what puzzles us at times. That's why we feel in our responsibilities on this subcommittee that we have to play a role in between to force them, to force the carriers to do what should be done in the first place. And I'd certainly welcome any comment that any of you have.

Mr. RENDLEMAN. I hope my statement wasn't taken out of context. I certainly was not complaining that we were adding systems to the airplane.

Mr. MOLINARI. No, no. I didn't interpret it that way.

Mr. RENDLEMAN. I wear two hats. I began my career as a military pilot, flew 11 years, and then was a commercial airline pilot for a major carrier. So looking at it from pilot perspective, all those neat clocks in the airplane make life a lot easier, especially in the complicated air traffic environment that we fly in. I certainly welcome anything that can enhance safety from the cockpit standpoint.

My point was that is just one more factor of things that has to be taken into consideration when we look at total maintenance costs. Were these systems not available, or were they not to be installed in the aircraft, obviously our expenses in that particular category would not go up.

Mr. MOLINARI. Mr. Kruse, do you want to add something?

Mr. KRUSE. Yes. I guess I would make a couple of comments.

I don't share the view that reacting or responding to accidents is the same as in the day-to-day regulatory process responding to what is perceived as legislative or public pressure. The aviation industry, despite its commonplace nature today, has only been around one lifetime. And the reason it has made such cataclysmic strides forward, both in safety and reliability, is because every accident or incident is examined carefully and then is tracked backwards to what could have been done to prevent it. It is the way we learn.

So I don't even view an accident as public pressure. Public pressure, I don't believe, is needed to prevent accidents. It is an economic disaster for an airline. Any airline that thinks that they can remain in business and have accidents, well, I can't conceive of that. So accidents are going to be prevented in every way known to man, I think, with or without that pubiic pressure.

Mr. MOLINARI. But——

Mr. KRUSE. But in addition, when you don't have an accident, where to put our dollars tomorrow to prevent some accident which hasn't happened yet, becomes one that requires a great deal of study and a great deal of knowledge to place that wisely. That's where I think that the engineers ought to be involved and not the public.

Mr. MOLINARI. Well, on that score I don't know who's testimony—I read all three—but certainly one of you indicated that you welcomed, in fact suggested, that there be more resources given to FAA to hire additional safety inspectors. God knows we've talked about the issue of controllers. As I remember the testimony, it said something to the effect that it helps us to watch ourselves. And I thought that that was—it made sense to me.

Did you want to address that, Mr. Kolski?

Mr. KOLSKI. The only way I would like to address that, sir, is to say that if dollars need to be spent to improve the level of safety, I don't think we as an industry, you as the people who write the laws, or the FAA, or the public need to wait for an accident to happen. Saying that, I don't think that an accident, properly diagnosed by the NTSB, should necessarily result in an overreaction of money spent to prevent a necessary or a possible reoccurrence. I think the decision should be made without the benefit of an accident.

With respect to FAA inspectors, I think what you're hearing from this committee or this panel today, is at Northwest, American and Eastern we have high FAA visibility and profile. And I can only speak from my own personal experience. They are demanding more, they're asking to see more, they're getting in deeper, they're looking further than they ever looked before. And that's my own personal experience.

Mr. MOLINARI. One further question at this point.

Yesterday, we had Captain Mitton of ComAir testify. I don't know whether you people are aware of her testimony or not, but she raised an interesting question, and indicated that the root cause of many of the problems confronting the system today was one item: money. And she talked about her own carrier and the regional carriers, there's tremendous turnover. I think she said something like the average years of service of a mechanic working for her carrier was 4 years. I think in your testimony, Mr. Kruse, you mentioned a very large turnover.

And I received a letter from Mr. Kolski from Eastern dated, October 5, 1987, which indicates at least to me, that in some areas, your carrier is paying a lot more than American. You're talking about janitors and aircraft cleaners top rates of $8.25 to $10 an hour compared to American Airlines' rate of $4.25 to $5.75 an hour. And in your testimony you talk about the need to restructure labor costs if you are to remain competitive. I guess the question that I have, in listening to Captain Mitton yesterday, and reading and listening to your testimony is, what kind of differential exists between your carriers? How much do your pilots make? How much do your mechanics make? And what is the differential? I assume from what I read that Eastern is paying more than some of its competitors and therefore is seeking to reduce, according to your testimony, labor costs in order to remain competitive. So again, I think I'd like to ask you at this time, and I'm sure it's public information, what do you folks pay—let's just take the two classifications for the sake of brevity—your pilots? And what do you pay your mechanics then? Let's just go from left to right. Mr. Rendleman?

Mr. **Rendleman**. A rather difficult question because of the current situation of labor contracts at Northwest Airlines. Our merger, especially in the labor issue regarding pilots, flight attendants, and IAM employees, and that has to cover a gamut of 23,000 people, is not resolved. Thusly, we have pilots on old Northwest, flying wide-body equipment, that make in excess of $200,000 a year. We have new hire pilots on old Republic, or old Republic wage scales, that after their probationary period are in the vicinity of $40,000 a year. So the gamut depending on, or the range depending on type of equipment, length of service and all are very widespread.

On the mechanic side, both labor contracts have been negotiated by IAM and I would say that we pay industry average. I characterize that by saying a journeyman mechanic with 12 years of seniority plus, is paid on an average of about $18 an hour straight-time rate. A new hire mechanic on either contract is down in the vicinity of a little over $10 an hour. Again license fees, shift differential and things like that have to be equated into his total take-home pay.

These contracts, old Republic and old Northwest, although not identical are very, very similar. And consequently we have not had the turnover in mechanics that was alluded to yesterday in testimony. Certainly we have retirements, and we have deaths, but we do not have a mass exodus of our mechanics going to other airlines. I think Northwest has continued to have favorable relationships with this employee group, although those relationships have been strained or pressed from time to time.

Mr. **Molinari**. Mr. Kruse.

Mr. **Kruse**. I guess the simplest way to address the pay issues are maybe to elaborate on the various ways the airlines have dealt with that issue. Our senior mechanics, as well as our senior pilots, are paid as high or higher than any airline in the business. Our new hires since 1973 have been brought in at market rate, if you will. So the old airline retains—or the airline that was there prior to 1973 retains the cost of that era. Everything that has grown since 1983, has grown at the costs of our most competitive new entrant or other airline.

So over time our costs are coming down to the new entrants. And in the meantime we have relied on marketing strategy, yield management and other methods, to keep profitable even though our costs were not as low as others, and remain somewhat higher. I think other airlines, not taking that approach, have either tried to hold wages constant for the entire work force and not allow raises, or to take back from the entire employee group some set amount. Those appear to have met with a great deal more resistance than to allow one standard of living from a past era and the growth piece of the airline to go forward at a competitive cost with the new realities of deregulation.

Mr. **Molinari**. Mr. Kolski.

Mr. **Kolski**. Sir, in the case of our mechanics and ground handling personnel represented by the IAM, one cannot totally examine wages paid in W-2 earnings as the cost of that employee. I'm sure you recognize the cost of his fringe benefits, his pension plan, his group insurance, other items necessarily go into developing what the total cost is. I can say that Eastern has and continues to be the leader of the pack. And in some classifications, not necessarily that of mechanic, far in excess of what its competitors pay.

In the case of pilots, Eastern pilots have taken reductions in their pay and in comparison with other major carriers, Eastern would not be a leader today. However, when you examine W-2 earnings of pilots, you again have to throw in the cost of fringe benefits and pensions. And then to get a common denominator with respect to other airlines, make a division as to how many hours of work he performs each month to get a cost per hour that would be a common denominator. Eastern, again, like mechanics is not behind the necessary level of the highest in the airline business to date. I would point out, though that the rest of the playing field is not level. Eastern has disadvantages far in excess of some of its competitors. Unfortunately, we can't talk to a dollar or a gallon of oil and say, unless you can do something to help us we're unfortunately not going to be able to compete. We can talk to our employees. And we're trying to do that. There are certain elements that we are——

Mr. **Oberstar** [presiding]. Your time is expiring.

Mr. **Kolski**. There are certain elements that we just can't reduce at this time. Our interest expense is far in excess of some of our major competitors. We would love to get it on the level playing field. And then we think we could pay our employees the same level that they pay, and compete on the basis of service and dependability, solely.

Mr. **Molinari**. My time has expired, so thank you for your answer.

Mr. **Oberstar**. Mr. Kolski, I'm going to send to you some documents I'd like you to take a look at, about which I will have some questions.

[Clerk handing documents to Mr. Kolski.]

Mr. **Oberstar**. What you have before you is a line pilot report of March 28, 1987, on aircraft 888 about which I inquired earlier. It is signed by Capt. Wayne Stradley. This line pilot report indicates that the aircraft in question had departed from Boston the previous day and it appears that the altitude alerting system had been noted as inoperative on that day before it was noted at LaGuardia. It further indicates that a part was located in Boston and was scheduled to be shipped to LaGuardia for overnight repair. Now the pilot in this case, Captain Stradley, refused to fly aircraft 888 with the altitude alerting system inoperative. Captain Stradley was grounded for refusing to fly that aircraft.

You have earlier stated that flying the aircraft under those circumstances was permitted by the maintenance manual of Eastern as approved by FAA——

Mr. **Kolski**. Excuse me. I didn't hear that last statement.

Mr. **Oberstar**. I said, you had stated earlier that flying an aircraft under these conditions is permitted by your maintenance manual, as approved by FAA. I have already observed that there is a difference between what you understand to be, and what FAA has approved, as your operating procedure, and what the clear language of the Federal Air Regulation is. The FAR, by any reading of the language, allows the parts loophole to come into play if the system fails in flight. Your maintenance manual says otherwise.

However, in the last week I have interrogated a half dozen pilots of other airlines who are not ALPA members, so that there could be no question about their response, and every one of them said that under these conditions they would not fly that aircraft. The question is, whose judgement is to prevail, and if the captain's judgement is that flying the aircraft under these conditions is unsafe, is it company practice to discipline him nonetheless?

Mr. **Kolski**. When Eastern Air Lines operates the flight that Captain Stradley was going to operate, it was operating under part 121 of the FAR. It's not under Part 91. I've got a copy of part 91 here. Under part 121—121, 627(c)—allows an airline to have a Minimum Equipment List and that approved list which is a copy of the FAA's Master Minimum Equipment List, it allows the operation of an airplane with an altitude alerting system inoperative before departure. That operation is in conformance with part 121 of the FAR's.

Is the dispute present here whether or not it is safe or unsafe, or is the dispute whether it is legal or not? If the answer is, may an airliner and a pilot depart LaGuardia with an altitude alert system inoperative under part 121 of the FAR's, I will tell you there isn't a soul in this world knowledgeable about FAR's who would tell you that operation is illegal.

Is the operation unsafe? That's an issue of judgement. The FAA and the air manufacturer has already determined that the operation is not unsafe. The pilots who flew this airplane the day before, they will tell you it's not unsafe. The pilots who flew this airplane the day after will tell you it's not unsafe. Now, if Captain Stradley really and truly believed it was unsafe to operate that airplane, then I would tell you that you should be questioning whether it was unsafe for those other pilots.

Mr. OBERSTAR. In fact I do, since other pilots from other airlines have given me the answer that Captain Stradley gave that he did not want to fly that aircraft.

Mr. KOLSKI. At Eastern Air Lines a great preponderance of the pilots flying 727 aircraft have no question as to whether or not the operation of that aircraft with an altitude alerting system inoperative is safe.

Mr. OBERSTAR. So in your procedures at Eastern, it is safe to operate an aircraft with the altitude alerting system inoperative?

Mr. KOLSKI. Absolutely.

Mr. OBERSTAR. Thank you.

The Chair recognizes the gentlewoman from Connecticut—she stepped out.

For the purpose of clarifying an additional matter that has been of some concern to Eastern so that you'll have an opportunity to air other grievances, the now well-known and widely discussed matter of the John King, Eastern mechanic, tape—are you familiar with the conservation between Mr. King and——

Mr. KOLSKI. Yes, sir; I am.

Mr. OBERSTAR. Is there anything that the supervisor might have said in that conversation that troubled you?

Mr. KOLSKI. I have listened to the entire tape. I have read the transcript. I have listened to Mr. King and the foreman recreate that tape, where each said his part. You asked me if there's anything the foreman said that troubled me.

Mr. OBERSTAR. Anything that Mr. King said that troubled you?

Mr. KOLSKI. Yeah, I think there are things that both said that trouble me.

Initially I'm troubled by the fact that an employee finds it necessary to carry a tape recorder around, and the reason he states it to be necessary is because he was coerced when he didn't want to work overtime. And therefore it was necessary for him to carry a tape recorder around. That disturbs me.

I find it disturbing also that——

Mr. OBERSTAR. I find it disturbing that he was not candid with the supervisor about the fact that he had a tape recorder.

Mr. KOLSKI. He was asked five or six times, "Were you taping me?"

Mr. OBERSTAR. That's not right.

Mr. KOLSKI. I find it disturbing that the conversation was even necessary. Long before the conversation took place, Mr. King had entered the discrepancy in the airplane's logbook. And after the discrepancy was discussed, Mr. King finally went and repaired the discrepancy and signed the release and the airplane departed.

I believe Mr. King set this foreman up. I think I believe the foreman when he tells me what he was trying to convey to King, is "I don't need you out here if you're going to intentionally shoot airplanes down when there's nothing wrong with them. If that's what your purpose is out here, give me your badge and go home." I don't know if that was as clear, although there is evidence of that in the tape when you listen, as I would have liked to have seen if I were the foreman. He has told me that was the purpose. That was what he was trying to convey to King, if you're out here to shoot airplanes down when there's nothing wrong with them, then I want your badge and you don't belong out here. We're out here to move airplanes to serve the traveling public. So it disturbs me that that wasn't clearer to at least everybody.

Mr. **Oberstar**. For those who are not as familiar with this issue and for the record it should be noted that the incident at question was discovery by the mechanic of a fuel leak on the wing tank. And the mechanic wrote it up in the log. The supervisor said, "If you're going to stick items in the logbook that will kill airplanes, then I don't need you. I want your I.D. badge. Go home, and we'll discuss your job. I don't want to go that way." King: "But what do I do when I have a running leak on the wing such as tonight?" Supervisor: "You put an item on a supplement sheet and say, Paul, I have a problem with the airplane, what do you want me to do with it?" King: "What do we do with it then?" Supervisor: "Then it's my prerogative as to what I do with the item."

What I'm interested in more than the dispute between King and Higgins, is the practice involved and how matters of maintenance are handled, and whose judgement is to prevail? And if there is an established procedure. What troubles me is, later on Mr. Higgins says, "We don't want this in the book because the crew will see this and they aren't going to fly that aircraft." Now, I hope that this is an isolated incident. That not every supervisor has the attitude, we don't want pilots to know, and we don't want crew to know about problems.

Mr. **Kolski**. I hope so too, sir.

Mr. **Oberstar**. The crew should have that history, should know that there was a problem and that it has been cured, or that it has continued, whatever. But it is the policy of the company in handling matters of this kind that is of interest and of importance, for the airline industry, for the traveling public.

Mr. **Kolski**. The use of a supplement sheet——

Mr. **Oberstar**. Yes. Please explain the distinction between supplement sheet and logbook. Apparently there are practices within the industry that differ from airline to airline about where items of significance are to be noted, whether in the logbook or the maintenance sheet, the supplement sheet or other airlines that have different designations for them. So please elaborate.

Mr. **Kolski**. In common language the supplement sheet is an extension of the logbook. Its use is usually necessary or beneficial when an airplane, such as a wide-body aircraft, may be getting a check in which there may be eight or ten mechanics involved in checking that airplane. It would be very difficult for eight mechanics to share one logbook. Maybe you couldn't find it. You'd be on the left wing and the logbook is in the tail. There's another mechanic in the cockpit, he's got the logbook. Each mechanic may use a supplement sheet. Eastern's procedures, which I believe are identical to any other airline's procedure, is when there's an item recorded on the supplement sheet, and that item is repaired and corrected, nothing need go into the aircraft logbook, per se. The supplement sheet is sent to the centralized location where aircraft records are kept and is available as a part of the aircraft records. If there is an item which has not been closed, or has not been cleared in airline terms, that item must be entered in the aircraft logbook.

This incident in Boston and other observations made by Eastern, have led us to conclude that we need to make a tighter control on the use of supplement sheets. And we are in the process of serializing them and requiring them to be stapled to the logbook when they are used so that this information is available to pilots.

Mr. **Oberstar**. That's very good. I was going to ask that very question, and I'm glad you supplied that information as to whether these supplement sheets will be—are an extension of the logbook. You've responded to that and that they will be included. Is this going to be part of your procedures as already decided upon?

Mr. **Kolski**. It's already decided upon. It is in the process of implementation. There is a lot of logistics involved in serializing these items and making control over them and issuing them out to each station and implementing the procedures. But we're well on our way to doing it.

Mr. **Oberstar**. So then in the future there should be no dispute between a supervisor and a mechanic over whether an item that in the mechanic's professional judgement should be tended to will be entered in the logbook, i.e. supplement sheet, and whether that action shall be taken, or as Supervisor Higgins said: "That leak has probably been there since the Year One. To make someone aware of it is good. To put it in the logbook is no good." I don't think that you would want to have that expressed as——

Mr. **Kolski**. I do not like, and I do not endorse, the attitude that is apparent from your reading of that small section of that conversation, no, sir.

Mr. **Oberstar**. And you are now taking steps to correct, procedurally at least, that kind of situation.

Mr. **Kolski**. Whether it is entered in the logbook or whether it's entered in the supplement sheet will make no difference.

Mr. **Oberstar**. The mechanic should not have to first go to a supervisor and have clearance on it?

Mr. **Kolski**. That mechanic didn't have to go to the supervisor to get clearance for anything that night.

Mr. **Oberstar**. And he apparently didn't. He wrote it up.

Mr. **Kolski**. He wrote it up——

Mr. **Oberstar**. And the supervisor said that's not the way we want to go——

Mr. **Kolski**. And instead of going about fixing it, he got a tape recorder to tape a conversation.

Mr. **Oberstar**. That part—that indicates that there are some other problems. But what I'm getting at is the underlying——

Mr. **Kolski**. I can see your concern.

Mr. **Oberstar**. I think we've clarified that by what you have said and that is reassuring.

One final matter that you have not addressed, and I think you should have the opportunity to respond to it, is the Flight 216 from—you did address that just briefly, but I noted some inadequacies in what you said.

Flight 216 to Tulsa, Kansas City, Chicago. You said that the American Airlines mechanic signed off on that aircraft in Tulsa. Apparently——

Mr. **Kolski**. I said another airline. I didn't name the airline.

Mr. Oberstar. Well, we know that it was American, because American does Eastern's maintenance in Tulsa, and I questioned the American mechanic about that yesterday. And he said, no we didn't sign off. Eastern said well, in our procedure if you allow the aircraft to proceed, you have in effect under our procedures, that—there are two different procedures.

The significance of the incident is to understand how contract maintenance is done in the industry. This is an area that has a lot of gray. The contractor conducts maintenance according to the procedures approved in the maintenance manual, correct?

Mr. Kolski. That's correct.

The FAA——

Mr. Oberstar. They do not conduct the maintenance according to American's or Northwest's maintenance manual? They conduct it to—they're contracting for you, they do it according to your maintenance manual?

Mr. Kolski. Unless a particular aspect of maintenance is identical, the FAA and the FAR's require your airplanes to be maintained in accordance with your manuals and your programs.

Mr. Oberstar. But where they differ, and I've been in other maintenance facilities and have seen contract maintenance performed, and where procedures differ, the contractor does it according to the contractee's maintenance manual, not according to their own.

Mr. Kolski. They do it according to Eastern's manual, yes, sir. That's right.

Mr. Oberstar. That's right.

In fact, in this situation the maintenance check that was done after noting the hard landing was done under the least rigorous—Eastern has three categories of hard landings, and what is required to be done in terms of maintenance. American said that "Had that been one of our aircraft, we don't have classifications of hard landings. We take that aircraft, jack it up, and we do a complete check." They were directed by Eastern to do the least rigorous check based on rate of descent, and therefore did not get up over the skin of the aircraft. The aircraft proceeded to Kansas City. There is where a problem was compounded.

At Kansas City the aircraft was permitted to proceed to Chicago on the basis that the aircraft had already been cleared from Tulsa. So checkpoint two, where a problem could have been discovered, was not discovered because Eastern thought that the aircraft had been checked according to its maintenance procedures and all the check that was needed to be done had in fact been done, but of course the complete and thorough investigation was not performed. Something happened on the way to Chicago; FAA was notified that there was a larger problem. FAA stopped the aircraft, grounded it in Chicago.

Mr. Kolski. I don't think that's true, sir. Not at all.

Mr. Oberstar. Well, that's the information that we have.

Mr. Kolski. That airplane upon its arrival at the gate in Chicago, before the FAA or the NTSB appeared at the airport, was removed from the gate by Eastern Air Lines' maintenance personnel and taken to the hangar in Chicago.

Mr. Oberstar. You were not directed to do so by FAA personnel?

Mr. **Kolski**. Absolutely not.

And I will tell you that while there are some different opinions and different conclusions that can be drawn concerning events in Tulsa, in Kansas City, there are none in Chicago.

Mr. **Oberstar**. Did FAA—was FAA notified by Eastern of this incident?

Mr. **Kolski**. Yes, it was.

Mr. **Oberstar**. Is that how FAA learned of the problem?

Mr. **Kolski**. I also believe there were hotline phone calls to the FAA. I believe one was made by a flight attendant in Chicago after the airplane had been taken to the hangar and the flight canceled. And I believe another one was made by a mechanic in Kansas City. I'm not positive with respect to that. That's what I have been led to believe by representatives of the FAA. But that's immaterial who made the phone calls. They were made.

But the aircraft was removed from service and the flight canceled long before the FAA appeared at the airport in Chicago.

Mr. **Oberstar**. Do you feel there's any of the procedure in contract maintenance that needs to be clarified or tightened up?

Mr. **Kolski**. Well——

Mr. **Oberstar**. I'm speaking on the basis of this——

Mr. **Kolski**. I heard what you said, your description, and I do not want to be one to make a judgement of credibility in front of you with respect to what happened in Tulsa. There is a conflicting report concerning how Eastern directed American to do that maintenance, or what check to perform. The people at Eastern who had phone calls with American personnel, namely those in tech services in Miami, do not remember any conversation concerning sink rate. I'm not going to make that credibility judgement here. I believe the NTSB or the FAA are more objective and will make that eventually.

The only concern was whether or not American had Eastern's maintenance manual and the applicable provisions. Miami Tech Services states that American advised that they thought they had the manual on tape and they would call back if they didn't. I believe that is an accurate description of that conversation, at least that portion of it. Now when you look at the Eastern manual, I would agree that to a nonairline knowledgeable person, that it could be called confusing. However, at least to a pilot, and I would say to most experienced mechanics, the very definition of a hard landing means you have high sink rate. That's what caused the hard landing. You can't have a low sink rate and have a hard landing. A low sink rate means you have soft landing.

There was an effort made and contact was made by American maintenance people in Tulsa with one of the pilots. And I think this is where the breakdown occurred, at least with respect to Tulsa. He was asked what kind of sink rate he had. He said he didn't know. He said, "Well you've got to tell me. Was it medium to high, or low to moderate? I guess it was moderate. Low to moderate or medium to high? Well if you put it that way, on the low to moderate side. That's all I need to know." And they went out and performed—not a hard landing inspection, they performed an overweight inspection. The crew arrived at the airplane the next morning, the same crew that operated into Tulsa, picked up the logbook, and it said, "Hard landing inspection completed per phase 1(b)." They are not knowledgeable, nor are they presented with information which would say, well 1(b) isn't really the hard landing inspection. But that's what the logbook said.

Mr. **Oberstar**. Yes. We have reviewed numbers of statements and the various reports filed at Tulsa, at Kansas City, at Chicago, and it's clear to me that what the copilot said—in that situation—was misleading for the American Airlines' personnel. But the whole incident raises questions. And not just this incident but others that we have reviewed with other airlines, as to contract maintenance. Questions arise, and somehow we need to have those—the margin of question reduced so that we don't have people pointing fingers, "They went that-a-way." We don't need that kind of situation. You don't want it. American doesn't want it. The American mechanic said, "We'd have done things entirely differently in our procedure." Eastern says, "This is our procedure, it's worked fine for us." But it's that margin of question that remains here.

Now time has run out because we are late in a second recorded vote. So we'll suspend for recess for 45 minutes, pending this vote and give everybody time to have a bite to eat.

[Whereupon, at 1:40 p.m., the subcommittee recessed, to reconvene at 2:25 p.m.]

AFTERNOON SESSION

Mr. **Oberstar**. The subcommittee will resume its sitting, and ask witnesses to please take their place.

At the time we recessed for the vote on the House floor, Mr. Kolski was responding in explanation of a new policy being written by Eastern. Could you explain that just briefly again for the record, and then we would like to ask you when that policy directive is concluded if you could submit that to the committee for inclusion in the record at this point.

Mr. **Kolski**. Do you want me to go back over the policy change on the supplement sheets?

Mr. **Oberstar**. Yes, would you do that just very briefly again, summarize it?

Mr. **Kolski**. In summary, a supplement sheet is an extension of the logbook. It is a widely used document, especially when there is more than one mechanic working on an airplane, or inspecting an airplane, so they don't share the logbook.

Our procedures, and every airline's procedures that use something like a supplement sheet—they may call it a supplement sheet—require that if the open item is cleared, the supplement sheet is then mailed or sent to the centralized location where all maintenance records are kept and it becomes a part of the maintenance records for that airplane.

If a supplement sheet contains a discrepancy which has not been cleared, it must be transferred to the logbook, which remains in the cockpit of the airplane. As a result of several observations by Eastern, we felt it was necessary to maintain some tighter controls on these supplement sheets. Not so much when they were used, but rather issued and then recorded in the logbook that there was a supplement sheet against this airplane. We are serializing those supplement sheets, putting control on their issuance and who they're signed out to and to what aircraft they're signed out, so we have a check and balance system and a copy of the supplement sheet is going to be stapled to the logbook itself.

I would venture that within 30 days this process will be operational at Eastern. But whether it's before that or after that, I will make sure that the procedures as described with sample supplement sheets are sent to the committee, yes, sir.

Mr. **OBERSTAR**. Thank you very much. We appreciate having that, and we will include it in the record, providing it's not too voluminous, at least the essential part of it.

American has something that we understand is called an E-58 form. Could you describe for us, Mr. Kruse, the purpose of the E-58 form and whether that corresponds to the supplement sheet that is in practice at Eastern?

Mr. **KRUSE**. Yes. The E-58 is the mechanic's log at American. And it is a supplement to the logbook, if you will.

Mr. **OBERSTAR**. And it is included at the same place, provided at the same place that the log is kept?

Mr. **KRUSE**. No, not necessarily. It's a process very similar, and in fact from what I've been able to overhear, it's precisely the same as Eastern's. Items that are left open in any way which could affect the handling of the airplane or a need-to-know basis to the pilot are transferred to the log. Otherwise they run independently. They're kept on a mechanic's log, and they're kept in our automated fleet management control computers, available to every line station. But they are not necessarily transferred to the pilot's log.

Mr. **OBERSTAR**. Thank you.

Mr. Rendleman, does Northwest have a similar practice?

Mr. **RENDLEMAN**. Yes, Mr. Chairman, we do.

Mr. **OBERSTAR**. What do you call those sheets?

Mr. **RENDLEMAN**. There is the old Northwest, the old Republic, and the new Northwest way. So let me answer the question with three answers, if I may.

The primary use of the logbook is for pilot write-ups. And if a pilot writes up an item in the course of a day's activity, that item once cleared is also entered in the logbook. So there's a write-up item and a clearing part. Items that are—well, when the item is written up, and again when it's clear, that information is entered into our computer system so that we have an on-line system, as I mentioned earlier, so we can track everything that's been done to the aircraft.

Additionally, when a pilot write-up is continued as an open deferral, we transfer it to another logbook section, called the RIS logs so the pilot will have an accurate status of what has been written up against the airplane, what has been cleared and what is still open. For overnight line checks, we send our mechanics, via computer system, a set of work cards that actually detail the steps that they're to take in the line checks, and also enter those log pages from the day's activity and from previous days' activities that are still open with additional troubleshooting techniques that have either been entered by technical specialists or engineers, and the location of the parts to clear those discrepancies. So when a mechanic goes out to work on an aircraft on an overnight, he has a computerized work package that tells him everything that needs to be done against that particular aircraft. Items that are left open after that overnight work package are entered back into the computer and this computerized log is then attached as part of the logbook so the pilot will know what open items are still in the aircraft.

Additionally, when an aircraft goes into major maintenance a set of computerized work cards are issued against the aircraft. And any of those items that remain open at the conclusion of the check—and we call the conclusion of the check when the airplane actually rolls out the hangar door, so for instance, engine run-up items and things like that, are transferred to an M-12 card and at the conclusion of those operations, those too are entered into the computer so that the check is then closed. The check package is closed as the airplane rolls out the door. The M-12 items are closed after the functional checks are completed on the aircraft.

Mr. **Oberstar**. Thank you. That was very helpful.

Now, on the open items that are airworthiness items, can the panel respond for me, do you have a time limit in which those continued items must be concluded? I'm speaking, again, with respect to airworthiness items.

Mr. **Kolski**. Mr. Chairman, we should distinguish between MEL items, and we've talked enough about them, but I still feel you may not clearly understand what we've tried to tell you, but distinguish between those——

Mr. **Oberstar**. Well, I clearly understand. I may not agree with some things, but I certainly understand it.

Mr. **Kolski**. Distinguish between the MEL's and distinguish between the fact that there can be other maintenance discrepancies which can be deferred, non-MEL items. They can be deferred in two ways. One, it is an obvious item not related to the airworthiness of the airplane, a can opener in a galley, a coffee maker, a passenger's reading light. Those are obvious items which are not related to airworthiness. Those items can be deferred and there is no time limit on when they are to be repaired, at least no regulatory time limit.

There are other items, such as scratches, dents, small cracks, et cetera, which an airline can defer by referring to the various manuals that it operates under. Its maintenance manual, its structural repair manual. The structural repair manual may allow the deferral of a dent and give the limits as to the dent can't be deeper than or wider than, or a scratch, or may allow a temporary repair. Those items again, do not generally have a time limit as to when they must receive their permanent repair, although some will state language similar to "repair at the next major maintenance visit."

I hope that answers your question.

Mr. **Oberstar**. Basically you do have time limits and it varies from item to item depending on the MEL's——

Mr. **Kolski**. MEL's, yes. Other deferred items generally there are no time limits.

Mr. **Oberstar**. Right.

I'm—again we're talking within the context of MEL's and airworthiness items.

Mr. Kruse.

Mr. **Kruse**. I guess I would elaborate on that to the extent that an airworthiness item will not fly. It will be decked when found.

Mr. **Oberstar**. That is what the mechanic said yesterday.

Mr. **Kruse**. Pardon me?

Mr. **Oberstar**. That's what your mechanics and pilots said yesterday.

Mr. **Kruse**. Okay.

With regard to the MEL I might try another approach to clarifying how the airlines generally operate. We view the MEL, as does the FAA, in general as a borderline, if you will, all those items that are a border or separator between clearly airworthiness items that you will never fly, and those which are nonessential or not necessary. Okay?

The MEL covers that band of material and equipment and hardware on the airplane that there might be a question as to whether or not it can be operative or inoperative, and if it's allowed to go inoperative, any special requirements, operating restrictions or maintenance restrictions that apply to allowing that. For example, if a thrust reverser is inoperative, that may be permitted, but you may not operate it if the runway at the destination is forecast to be slick or whatever, or you may have extended—you may have a need for longer runways on landing, or reduced gross weights on the airplane, or all of the above in order to stay within the operating envelope of the airplane. So these are the kind of things that are spelled out in the MEL. It is up to the pilot, the mechanic and the maintenance professionals within the airline for those things not covered in the MEL to know whether it's more serious or less. And the band is defined to be wide enough that anybody in the business should know whether it is more serious or less serious than those items covered in the MEL.

There is no MEL authority to allow a reading light to be inoperative. And it's for a very good reason the lists of those kinds of items would make the book so voluminous you couldn't find the things you really need in it.

Mr. **Oberstar**. That's correct, sir.

Mr. **Kruse**. So that's the way we operate. Those things covered in the MEL, we operate to those specifications. Those things less serious, we fix at our discretion. Those things more serious we do not fly unless they are fixed.

Mr. **Oberstar**. Thank you.

Mr. Rendleman?

Mr. **Rendleman**. I don't think I can add a lot. Every open item is attached to every airplane in the Northwest system that overnights in the maintenance base. And every one has to be addressed. It is either repaired or deferred. And the deferral could be, as my colleague pointed out, with a scratch or a dent that's well within limits, sometimes it's deferred to the next major check, which could be months away. If it's an item like a thrust reverser that can't be fixed on that night, it may only be deferred to the next night. So again, every item is looked at and reexamined as to whether that's an important thing to do right now or not.

Mr. **Oberstar**. Thank you.

A final question before I move on to other Members. I'd like your reaction to the FAA hotline. The purpose of the hotline is to provide a means for personnel to call in problems that they discover under the cover of anonymity. Now there are pluses and minuses to that. But I'd like your reaction to the FAA hotline as it applies to maintenance personnel and pilots, and actions that your company would take if you had information that one of your employees called a particular item in on that hotline. We'll move from left to right, this time.

Mr. **Rendleman**. The number for the FAA hotline is posted in most of our maintenance facilities. We don't expect our employees to call in and rat on us because we think we have an open dialogue with our mechanics. And as I said earlier, we encourage not only our pilots, but also our mechanics to write things up. You can't fix it unless you know it's broken.

To my knowledge, Northwest has never taken disciplinary action against anyone who called in on the FAA hotline, nor do we intend to. I feel it serves a purpose. It is another means of notifying somebody of something that a person doesn't think is correct. And as I said, we openly post the number in our maintenance facilities for its use.

Mr. **Oberstar**. Thank you.

Mr. Kruse.

Mr. **Kruse**. You may find this somewhat surprising. I've been against hotlines, but I have learned the error of my ways. I received strong encouragement from our chairman to rather than criticize the FAA hotline, to set up one myself so that our employees would have no need to ever call the FAA. The immediate fare is the level of chafe that might come through such an anonymous line to outweigh the benefits.

I'm happy to report at American I have such a hotline. I write a letter to all employees again, giving them a state of our company, and what's going on, and reminding them of that hotline number primarily for safety issues. If they have a concern not being addressed at the local level, to call me. And that is manned 24 hours, and we follow up on every one of those calls. I'm happy to say that they are fairly few, but that we have learned of conditions and situations that we were not aware of that needed correction through that. It's been used in a responsible and forthright manner by our employees, and I'm a believer.

Mr. **Oberstar**. Thank you.

Mr. Kolski.

Mr. **Kolski**. Mr. Chairman, I believe that if an employee has a safety concern, that he should be able to use that hotline if he wants to without fear of recrimination from his employer. I do believe though that if it's a safety concern, he owes his employer an obligation to bring it to the attention of his employer, either contemporaneously or before. The fix that that hotline may take, and the time lag that it would take to get that fix, if we have a true safety issue, is certainly longer than bringing it to the attention of the carrier that employee may work for.

So in summary I'm saying that if he wants to use it, he should have every right to use it, but I believe he owes his employer in the interest of safety and the interest of the traveling public, a corollary obligation to bring it to the attention of his employer. Now, I've been told by the FAA, Eastern Airlines is the subject, by far, of more hotline complaints, or more hotline phone calls than any other carrier, in fact, all the other carriers put together. I've been told by the FAA it appears to them that our employees, some of them, are using the hotline for reasons other than which it was intended. There are hotline reports because an employee may have been reprimanded by his supervisor. Now all of a sudden there's a hotline report on the supervisor that he's doing unsafe or illegal activities. If that's the purpose for the hotline, or if it's being used for that purpose, it's a waste of taxpayers' funds. Now we may have to put up with that in the interest of safety. We may pay the price for some employees using that hotline for other purposes, so that we get at the few cases when there is a valid issue brought to the attention of the FAA.

Eastern will not discipline an employee for using an FAA hotline. Eastern will discipline an employee for telling lies about what goes on at Eastern.

Mr. **Oberstar**. What would you do about an employee who advocates a fellow employee's use of the hotline?

Mr. **Kolski**. For what purpose?

Mr. **Oberstar**. For calling in safety issues.

Mr. **Kolski**. If it was a true safety issue in the mind of the employee, nothing. If it was for a purpose of causing harassment for Eastern, or for causing harassment to a supervisor and there were lies told, the employee would be terminated.

Mr. **Oberstar**. In the removal letter to a lead mechanic in Kansas City, reference was made to the fact that this person previously advocated that fellow employees report safety violations to the FAA, and from what we've been able to discern, the employee advocated use of the hotline.

Mr. **Kolski**. To the detriment of advocating bringing it to the attention of the company?

Mr. **Oberstar**. Would you like to respond? Are you aware of the situation and would you like to respond to it?

Mr. **Kolski**. I am aware of the situation. I do not endorse that statement as it appears in that letter. I want to know more about that statement myself, which was brought to my attention yesterday, in the context it was written. Was it written to encourage other employees to use the safety hotline as a harassment tool? If that's the case, I endorse it. If it was meant to discourage employees from reporting legitimate safety devices, or safety problems to the FAA, then I don't endorse it.

Mr. **Oberstar**. Where do you draw the line, since you've used the term, between harassment and a legitimate concern about safety issues?

Mr. **Kolski**. Clearly it's a tough line to draw. And the benefit of the doubt in most cases is going to have to be given to the employee. But let's take the case of Mr. John King. He's made some statements. I have no problem in drawing the line. They aren't anywhere close to be colorably accurate. Those instances do occur. The Federal government did not set up funds to run a safety hotline as a way of harassing management, and as a way of responding to a manager who may not be happy with the fact that the employee doesn't come to work on time, and tells him so.

Mr. **Oberstar**. It should not be used as a complaint file on personnel issues, that's for sure. It should be restricted to safety issues.

Thank you very much. I appreciate your response to that.

Mr. **Kolski**. You're welcome.

Mr. **Mineta**. Mr. Chairman?

Mr. **Oberstar**. Yes.

Mr. **Mineta**. Could I ask, through you, a question of these gentlemen?

Mr. **Oberstar**. I'll yield briefly.

Mr. **Mineta**. Is there a correlation between complaints that are lodged through the system, within your own company, versus the calls that go to the FAA hotline? In other words, are you getting maybe somebody who complains to the hotline, but never says anything to their own immediate supervisor, or within the company system complaining about some issue? Is there a correlation? Do you track that?

You were saying about the issue of whether or not someone is just being flippant, and says, "Well screw that supervisor. I'll call the FAA hotline. I'll get even with the SOB." Now was there a previous complaint somewhere lodged, or are these just coming out of the air?

Mr. **Oberstar**. I couldn't agree more with the point that the gentleman from California is raising and that is that the employee should first of all note the discrepancy, bring the matter to the attention of the line supervisor and attempt to have resolution through normal procedures. Failing that, the hotline is available.

Mr. **Kolski**. I'd go one step further than what you said. If it's a safety issue, in addition to bringing it to the attention of my supervisor, and I didn't see him make what I consider to be the appropriate response, I think I've got an obligation to go to his boss, like right now. We're talking about safety.

Mr. **Oberstar**. But if an atmosphere of intimidation exists, or people think there is one, then following procedures within the organization becomes a little more difficult.

Mr. **Kolski**. If it truly exists, maybe so, if that truly exists. I don't think it exists on my airline. I've seen too many instances where employees have come forward to point out safety issues and get responded to. And I don't see the coercion and intimidation that a very few people think.

Mr. **Oberstar**. I think your response to Mr. Mineta's question would be very helpful, and that of the other panel members.

Mr. **Kolski**. Well, my response is we do not track that, sir. Maybe we should. We do know—we have established at Eastern a unit of employees known as regulatory liaison and operational review staff, with former FAA inspectors, most of these people retired, some early. A former principal maintenance inspector from American is in the unit, a former principal maintenance inspector from Frontier is in the unit, a former principal operations inspector from Frontier is in the unit. And the employees do come to this unit to report their concerns. Some are valid, some aren't. And sometimes it's only a matter of sitting the employee down and explaining it to him. And sometimes it's a matter of telling him he's right. There's no intimidation that goes back to this employee.

Mr. MINETA. Mr. Rendleman.

Mr. RENDLEMAN. We don't get statistical data from the FAA hotline. So as far as being able to compare internal complaints versus FAA complaints, I don't have any information like that.

At Northwest, however, again I feel we have a very open relationship with the employee. And I feel that safety items once brought out are handled on the spot. And I think the employees feel that way as well. We do make good use of the union grievance procedures. And I can certainly track—I don't have the information with me—but track number of grievances versus number of complaints about operational situations, not necessarily safety, but operational situations. And we can gain some information on that.

Mr. MINETA. Mr. Kruse.

Mr. KRUSE. I can shed some light on that issue. Not so much from the FAA hotline, as we don't have all the facts there either. I can share it with you from my own experience with the hotline that I run. Approximately 95 percent of all calls that I receive, the employee on the other end has not given his local management the opportunity to solve the problem.

Our logic, though, in running it is to try to provide a climate where the important thing is to get the issues out and get them solved and not be so hung up on protocol that it can stifle that information. The hard thing is getting mid-level management to accept the fact that an employee can call the boss without giving him an opportunity to solve it. We attempt to soften that blow by informing middle management that he must allow the employees to do it, but if that employee has not given him an opportunity to solve it, it is not going to be held against middle management. He will then have an opportunity to solve it.

As I said, about 95 percent of the time they find it easier to pick up the phone, a hotline, than they do to approach face-to-face local management and say, "I have this problem, what are you going to do about it?" That is a negative to hotlines. The 5 percent, though, that we picked up where they have tried to solve it with local management and have been unsuccessful, we have found some significant items in that 5 percent and think that alone justifies continued activity.

Mr. MINETA. Going back to Mr. Rendleman, you said earlier that whenever you have a deferred item, or all MEL's get attended to, they're either taken care of at the overnight station, or they're put on a deferred list. How many times can you defer that item?

Mr. RENDLEMAN. Again, it goes back to what Mr. Kruse said in regards to the severity of the item. Thrust reversers, weather radar, things that are operational requirements, and/or that the airplane suffers a penalty without, we handle them, and I'm not going to put a time frame on it, but as soon as possible. And that's within a matter of days, a few days.

Other items, I mentioned earlier, a seatbelt on a jump seat, that could go a longer period of time because it's not an operational necessity. But the point of our system is that every time an airplane overnights in a maintenance base all those items are reviewed. That's not to say that they're all fixed by any stretch, but they are all reviewed. And the repetitive list, that's another computerized program that comes out of that, when an item is deferred a second or a third time, it prints out on a repetitive list, and there's a group of technicians in maintenance control that constantly scan that repetitive list to make sure that we're not repeating too many times. And if it's an item that needs to be fixed it will be assigned, and that assignment is called a maintenance control "must-do," which means the airplane cannot leave that maintenance on that particular overnight without having that component repaired.

Mr. MINETA. I thank you.

Mr. RENDLEMAN. If I could just elaborate a little bit more. A lot of these, as I said earlier, are troubleshooting type things. So although a repair is scheduled in a particular maintenance base, due to a write-up, air conditioning for instance, the first night we may do a very extensive troubleshooting on the problem and still not really find out what the problem is precisely. That's why we feel it's so valuable to have this running computerized program that not only has the problem, but all the troubleshooting steps that have gone against it. So at the next opportunity to work on the airplane, you don't start from scratch, and repeat what you've done already.

Mr. OBERSTAR. The Chair will recognize the gentleman from New York.

Mr. MOLINARI. Thank you, Mr. Chairman.

I think this statistic that we've just heard is incredibly important and significant. Mr. Kruse, mentioning that 95 percent of the hotline calls to your company did not originate with the supervisors, or their supervisory personnel, to me that's rather fascinating. I think what it tells us is—you look at it as a negative. I would look at it as a positive that you have come up with a system that would ensure that at least the company employees will make complaints to the carrier in the first instance, rather than go to the FAA hotline. I think that's preferable, I think so from the company's standpoint, than going to the FAA hotline.

Mr. KRUSE. And I didn't mean to imply it's a negative. I thought I stated in my original statement that I'm a believer in hotlines.

Mr. MOLINARI. Yes, you did. Yes, you did.

But the point is this, and here's why I think it's so significant. You apparently, American Airlines, at the moment—doesn't have any labor unrest to speak of. Under those conditions we have the 95 percent choosing not to go to their immediate supervisor. Now, it kind of remainds me of controllers and supervisors in the Air Traffic Control System. And those of us that have gone around the country and we have all-hands sessions for a couple of hours hear the controllers and supervisors and other personnel ventilate their problems, but some of us meet at night with some people who simply will not get up, and they're concerned about putting themselves on the spot. And I'm just wondering whether the same thing would apply, and perhaps what you've done is a good policy that other carriers might want to implement.

Anybody want to respond?

Mr. KRUSE. I had many of those fears that our middle management does They have been alleviated. Again, I think the hotline would become a major pain in the neck if there were a labor or job action thing occurring. So there is a down side to it.

Mr. **Molinari**. Even under those conditions, though, wouldn't you be better off having them call the carrier than FAA?

Mr. **Kruse**. That is our philosophy. You're better off to know and evaluate it. The other thing is, part of our logic was if the FAA was going to put one in, we felt that it was absolutely essential for management to make it at least as easy to inform us of a perceived problem as it is the FAA. And so for that reason we elected to do it, both in the M&E department, that hotline I run, and in the flight department, our chief pilot and vice president of flight operations runs a similar one for the pilots. Ironically, we each get more calls probably from the other group than we do our own people. I get more calls from pilots than I do mechanics, and vice versa.

Mr. **Molinari**. Would the other gentlemen care to make a response?

Mr. **Rendleman**. Yes, sir.

As I characterized earlier, I would not identify the current Northwest situation as labor peace. However, I think you heard in testimony yesterday that from the mechanics' perspective that has not affected our safety or our performance of our duty. I don't have a hotline, but I too get a lot of phone calls from mechanics as well as pilots. We also have implemented a procedure at Northwest called, toolbox chats, where a supervisor, first-line supervisors primarily, will walk through the shops and walk through the hangars and get a group of mechanics and just talk about anything that comes through their mind. We feel this is a very open exchange and we also feel that the cross talk improves not only relationship, but also goes to the heart of some of the operational problems.

We have standard safety meetings, but we encourage discussions about items as they come along. So I think an open means of communication, whatever the format, is important in any labor situation.

Mr. **Molinari**. Thank you.

Mr. Kolski, do you wish to respond?

Mr. **Kolski**. I've just been advised that Eastern does have something very similar to a hotline in flight operations. It's called a 24-hour safety tape, which pilots can call and report their concerns or their observations. We do not have a similar hotline source for maintenance personnel. But from your observations and what I've heard today, I'm sure we are going to give it serious consideration, even though we suspect that in our labor dispute situation it may result in a workload that we would not like to have. But if it uncovers a safety issue, and gets it fixed a little bit quicker than it would get fixed by calling some other place, I think it's worth it.

Mr. **Molinari**. Great. I appreciate hearing that.

Let me ask a question. I was told that yesterday, Mr. Kolski, that one of the witnesses, and I wasn't in the room at the time, had mentioned the name of Clark Onstad, and said that he had mentioned in testifying before the Aviation Commission that if a pilot or mechanic had made a call to the FAA hotline, and the complaint was found to be unjustified, that would be grounds for dismissal. Is there something to that? Is that the policy of the carrier?

Mr. KOLSKI. To my knowledge, that is not the policy of Eastern Airlines. I think the policy, as I stated earlier to Mr. Oberstar, if the purpose of that phone call has nothing to do with safety, but rather is sort of a harassment technique, then I believe that discipline would be appropriate. I would agree with Mr. Oberstar, the line would be hard to draw, and that benefit of the doubt in a lot of cases would have to go to the employee. But if it was clearly evident that that was the purpose, I don't think that's the proper use or why that hotline was put there. And it's costing the government money, and it's costing Eastern Air Lines money by taking time that could be devoted to real safety issues to chase down these other issues that have nothing to do with safety.

Mr. MOLINARI. Okay.

Let me turn quickly to the Minimum Equipment List, the MEL's, that we heard testimony about yesterday. Subsequent to the fines imposed on American and Eastern Air Lines, in the case of American the incidents dropped to .3 per aircraft, where in the case of Eastern it is 1.3 or somewhere around four times as great as that which appears at American. Now I don't know whether these statistics are accurate, but if so, one would wonder why the great disparity when you have a factor of four times as great for one carrier as opposed to another. And that struck me. Yesterday we talked about it at some length, and I'm wondering since we have both carriers represented here, particularly you, Mr. Kolski, if you could explain why if these statistics are accurate, your carrier has a MEL factor four times as great as American?

Mr. KOLSKI. Mr. Chairman, I don't know the answer to the question I'm going to ask before responding. I don't know if Eastern counts its MEL's in the same way American Airlines does. I do know that our MEL count as of yesterday was 293 total MEL's, restrictive MEL's, MEL's with an operational penalty, MEL's without an operational penalty, MEL's related to non-airworthy items that happen to be in the MEL, total count. I know that our total number of priority items yesterday was 337 for our count of 630 on a fleet of 279 airplanes, or roughly two open items per airplane.

I've heard the MEL count on American is very admirable. And if it is counted the same way Eastern Air Lines does, I'm very jealous. I do know that our MEL count is higher today than it would be, but for some of the issues we have been fighting that I have tried to describe to you earlier this morning with the charts. But my hat's off to American if their MEL count, as we count them, is as low. And all I can tell you on this subcommittee, we're striving to get there as well.

Mr. MOLINARI. Fine.

Let me ask you one other question, Mr. Kolski, while you're speaking. At the conclusion of your testimony, you mentioned that the entire system is based on personal accountability. And you go on to say that you believe that it's absolutely essential, et cetera, et cetera, et cetera, to run an efficient, profitable airline. And then you said in closing let me read the following quotation from the recent FAA report on the operations of Delta Airlines. And that quote says: "However, the team observed instances of lapses of discipline in cockpits." It goes on to say, "The presence of these behaviors is primarily due to a lack of clear cut, definitive guidance from those responsible for developing and standardizing cockpit procedures. Management has maintained the policy of delegating the maximum degree of responsibility and discretion to its crewmembers. However, in an increasingly complex and stressful environment the limit of this policy appears to have been reached."

I was wondering why you chose to use that in your closing and what that means. It puzzled me a little.

Mr. **Kolski**. Yes, sir.

I was not here for all of yesterday. I was here for a good portion of the day. I heard one Eastern pilot give extensive testimony that Eastern management has usurped or somehow challenged the authority of the pilot command in Eastern Air Lines. Phrases were used that the airline used to be known as a pilot's airline where our captain's decision was not challenged, it was final, accepted.

I agree with the absolute authority of the pilot command. When that airplane is under his command, which starts from when the doors close and it starts to back up until when it lands or parks at the next point of arrival, he is in command of that aircraft. However, I believe it's appropriate that a carrier is permitted and should provide certain limits with which that command authority is exercised, never to the detriment to the FAR's. And whenever he makes a judgement in exercising that power of command, or that command authority, that judgement is subject to review. In other words, there's a correlative duty to responsibility. The more responsibility you have, the more accountability you have. And to suggest that you can have responsibility with no accountability is to suggest that you've got a situation that that paragraph describes.

Mr. **Molinari**. So what you're saying is it's the policy of Eastern Airlines that the pilot doesn't make the final decision until he's buttoned up and ready to——

Mr. **Kolski**. No. The policy of Eastern is that he makes the final decision in command of that airplane. After he is no longer in command, after the ship is at dock, after the flight is over, after the issue has been resolved, his actions during that period of time are subject to review.

Mr. **Molinari**. Sure.

Mr. **Kolski**. Okay.

I think you heard yesterday from Captain McClure that he doesn't believe that's true. I think you heard from Captain McClure that the FAR's say he is the final authority and nobody, not the company, not the Congress, not the FAA, nobody can challenge the decisions he made while he was exercising the authority of his pilot in command responsibilities.

Mr. **Molinari**. Wouldn't the same thing apply before takeoff, the same theory?

Mr. **Kolski**. I think there is a period of time when that captain commences the authority of pilot in command.

Mr. **Molinari**. When?

Mr. **Kolski**. It could be when he is in the office getting his dispatch release and refusing to sign it, saying that "I do not believe this flight can be completed safely and properly, and I refuse to initial my dispatch release." It could be as the passengers are boarding, when he determines we're no longer going to board passengers because we have an unsafe condition on board.

Mr. **Molinari**. Let me ask you this. Is a lot of this triggered by the labor problems that exist today? In other words, I'm wondering if in normal times with your carrier whether we'd be receiving the same answers. I judge that what we're getting here is a reaction to the problems that exist between union and management and that's why you're raising these questions.

Mr. **Kolski**. I am responding to what I believe was testimony you received yesterday.

Mr. **Molinari**. I understand that.

Mr. **Kolski**. I would tell you with respect to the majority, if not the great preponderance of pilots with respect to safety issues, with respect to pilot command issues, these are normal times at Eastern Airlines. There is a small element who are attempting to mix labor issues with safety issues. We believe it's totally inappropriate to do that. And most of our employees believe it's totally inappropriate to do that.

Mr. **Molinari**. For the sake of time, let me turn to one other——

Mr. **Oberstar**. The gentleman's time has expired.

Mr. **Molinari**. One last question?

Mr. **Oberstar**. We'll give you another round.

Mr. **Molinari**. Okay.

Mr. **Oberstar**. There are other Members who've been waiting for a long time.

Mr. **Molinari**. I'm sorry. Okay.

Mr. **Oberstar**. The gentlewoman from New York who was here this morning and due to long questioning was not able to remain.

Ms. **Slaughter**. Thank you, Mr. Chairman. I appreciate that very much.

Gentlemen, I've certainly been interested in what you're saying to us today. And we do hear a lot of comments about bottom line costs and obviously we know that you are there to make a profit. But we're here to make sure that the people that you carry are carried safely and have a fighting chance to reach their destination.

I was impressed with Mr. Rendleman's testimony and I'd like to restate a piece if I may, on page 5. It's brief:

> Another adaptation we in maintenance have made to hub and spoke operations is the use of maintenance coordinators in our own control towers at our hubs. These coordinators receive word of any maintenance work that we will need to do on an aircraft well before the aircraft arrives at the airport. He or she can then assure that the mechanics and the necessary parts and equipment are already standing by at the right gate when the aircraft taxis in. In this way lost time and hassle for our mechanics are avoided so that the work can be completed without delaying our passengers.

How long has that been in effect, Mr. Rendleman?

Mr. **Rendleman**. Again, I have to go back in history a little bit. Old Republic had a hub and spoke system with hubs in Minneapolis, Memphis, and Detroit, Motown as we refer to it. The old Northwest system was more of an international route structure with Atlantic and Asian operations. When we put the two airlines together on October 1, 1986, we took a fairly stable hub and spoke system and introduced into that wide-body aircraft. And that hub and spoke system in the past had been geared primarily to the narrow-body airplanes. And the additional ground equipment, the size, magnitude, numbers of passengers, bags, et cetera, deleted, if you will, some of the progress we had made in hub and spoke. So we had to readjust our way of thinking about it.

At the same time we attempted to put the entire airline on the same computerized maintenance program. I must say that we have not achieved that objective yet. We are still in the process and should complete it early next spring. But by putting the logbook, the open items, if you will, on a computerized program it allowed us to look at each aircraft any time we wanted to and see the open discrepancies, and as I mentioned a few minutes earlier, what had been done against those discrepancies in trying to correct the problems. But we were attempting to only work on the aircraft at night and only use this information at night when the airplanes obviously don't fly. And we weren't making good use of our 45 to 2-hour ground time at some of our hub locations. So we decided at that point, and this probably occurred in early 1987, February or March maybe, to actually put a maintenance coordinator in these hub control towers. His duties and responsibilities are, prior to the arrival of the bank to pull up the history of the airplanes that will be in on that particular bank, analyze what can be done in this limited amount of ground time and to precoordinate the parts, tools, mechanics, et cetera, to meet the aircraft as it arrives at the gate.

Ms. **Slaughter**. What kind of complaints are you having about delays these days at Northwest Airlines?

Mr. **Rendleman**. Well, I can say that our delay complaints are definitely down enormously since August and September. I can also say that the labor situation, that in my mind created some of our complaints during the summer, has also subsided dramatically. We had a portion of time during the summer where we could only, our mechanics would only work overtime if we issued a letter, which is a contractual thing that we say this is an emergency and you have to work overtime, and they take the letter and they file a grievance but they work it anyway. We are now getting free use of overtime anytime we request it. So all those things together and the fact that we're now in the fall season when passenger loads have fallen off somewhat, have certainly raised our on-time and departures and have decreased our delays and cancellations, and our consumer complaints.

Ms. **Slaughter**. I don't have a lot of familiarity with your airline although I know you do go into Rochester, NY. I want to relate an experience to you. I want to relate it because I spent a lot of time in Memphis over a 2-day period, and got to meet an awful lot of people sitting there in the lounge. We got to be fairly good friends. So let me just relate this story to you, because I'd really like to have some answers as to why this kind of thing could happen.

We left here on Saturday afternoon from National Airport, the last flight out before they closed the airport for a thunderstorm. We were delayed 40 minutes for mail loading, while we sat on the plane chewing our nails as to whether we'd get out. We arrived in Memphis to find the lounge jammed with people unable to go anywhere. I talked with some people on their way to Columbus and Cincinnati who said they'd been there for some hours and were preparing to stay the night. The problem was maintenance. Our own flight to Biloxi was delayed for 2½ hours. Again the problem was maintenance. We found that from the other people we talked with throughout the lounge. We were told in our case that the reason we couldn't take off was that there was no one in Minneapolis who could provide Memphis personnel clearance to do so. They were waiting for a phone call back from Minneapolis to allow us to go on. In no case, was there any backup equipment or anything else that they could do to help us.

We finally did make it to Biloxi. The next day we left to go back to Memphis, 45 minutes late. We got to Memphis and sat there 5½ hours on Sunday. The lounge was full, there were no seats for people, there were women with babies. The only option for food was to eat something congealed out of a machine or pay $20 in the restaurant. People who had spent their whole weekend trying to get one way or another on Northwest were perfectly willing to talk about it. It's for them that I want to bring this up today. Because they can't be here. There were two Members of Congress on that plane who sit on the Public Works Committee. And since I have an opportunity to ask you about it, I feel for their sake I really have an obligation to do so.

On Sunday when we sat there for 5½ hours, we were told there was a light out on the console, and that they wanted to make sure it was alright. We had a very difficult time finding out any information. We asked many times whether we were going to take off. We were concerned as to whether we would be able to land back at National Airport. As you know, at certain times of the evening you're no longer allowed to land there. Finally we got on the plane, some 10 or 11 o'clock in the evening. Again there was no food, nothing again for all these crying babies. We were told by one of the attendants that the trouble had been trying to find a mechanic from American Airlines to replace, I think, a light bulb that then had to be certified by a Northwest mechanic. We were told that this happened frequently, and that the people out there from this area, from Memphis down to Mississippi, all the way up to Minneapolis, were really captives of Northwest. That both Northwest and Republic had had exemplary records all the time when they were out there operating as competitors, but now that there was no longer any competition. And that people were pretty much forced to go whenever you wanted to go, they felt that they had just been held hostage by your airline.

My questions to you are how frequent are these problems and do you blame them, for example, on labor unrest? And how accurate is the information that we were given as the reason for those delays, and do they make sense to you?

Mr. RENDLEMAN. First of all I'd like to apologize profusely for the inconvenience the airline caused you during that trip.

Ms. SLAUGHTER. Well let me make it clear to you, I would sit there all day until I knew that plane was safe. I don't have any objection to waiting around for safety reasons. But none of us had any secure feeling at the time we got on the plane that anything had really changed much, except that you had to clear out that lounge.

Mr. RENDLEMAN. I'm afraid I'd be speculating totally to try to comment on anything you said now. I will be very happy to get the details of your flight, and the date, et cetera, and get back to you in writing or however, and tell you exactly what I think happened.

Ms. **Slaughter**. Why is that common? Nothing that I heard from people who travel frequently with you indicated to me that that was abnormal. Is that the way your airline operated this summer? Because maintenance problems were the reasons given in every case. Was your maintenance so bad this summer that flights were delayed up to 4 and 5 hours?

Mr. **Rendleman**. There were occasional delays of that duration. However, that was not as I think characterized, the typical example of our summer operation. We have 1,500 departures a day. I think at the peak of the labor situation, delays caused by maintenance never exceeded 70 or 80 out of that 1,500. Now, although that sounds like a tremendous amount, when you spread that over the total number of departures, I don't think statistically that that is a horrendous number. There were other delays as well, but that's just looking at the maintenance side of it.

Secondarily, our mechanics in Memphis are some of the highest skilled in our system, primarily because that's one of our—that is our warm weather hub, and there is a tendency for senior mechanics to gravitate toward Memphis rather than Detroit or Minneapolis. And therefore we bring not only a lot of seniority, but a lot of experience. Generally mechanical problems in Memphis, because of that experience level are cleared a lot quicker than they might be in Minneapolis or Detroit.

So again, not knowing any of the details, I'll just have to get back with you with some information.

Ms. **Slaughter**. Well I appreciate that, but is it your assertion and your testimony that it was labor unrest and not actual maintenance problems on those planes that has caused the delay and the problem this summer?

Mr. **Rendleman**. No. We wouldn't be here if airplanes didn't break from time to time. That's our job. So there are mechanical malfunctions that occur from time to time with aircraft. I think I tried in my testimony just to say that for a given period of time labor unrest generally exacerbates mechanical problems that may or may not really have occurred, but that appear that they have occurred because of the way they're interpreted by our mechanical staff. We give our mechanics a lot of credibility. If they say the airplane is broken, the airplane is broken until we prove it is fixed.

Ms. **Slaughter**. As you should.

Mr. **Rendleman**. Correct.

And if we suspect that an airplane is broken we will pull it out of service, take a delay or a cancellation until we've either satisfied ourselves that it is not broken, or until we correct the problem.

Ms. **Slaughter**. Well, you would not have anybody in Memphis your hub, who could make the decision as to whether or not that plane could fly? That was another question regarding mechanics and malfunctions. Why couldn't the people in Memphis there at the scene make that decision and not have to wait until Minneapolis okayed it?

Mr. **Rendleman**. Well, in answer to the first part of your question, we have a very large staff of mechanics and maintenance management in Memphis. We have a regional director who is stationed in Memphis.

Ms. **Slaughter**. And they could have made that decision, could they not?

Mr. **Rendleman**. That's correct.

Ms. **Slaughter**. Without any concurrence from Minneapolis?

Mr. **Rendleman**. That's correct. As long as it was an item that can be released. We've talked earlier about those items that have to be fixed before the airplane can go versus those——

Ms. **Slaughter**. But Minneapolis wouldn't know that. You would trust Memphis to tell you. In other words, what the passengers were told was not correct?

Mr. **Rendleman**. Well, I don't know exactly what the passengers were told. I'm not doubting what you said, I just don't know the details of it.

Airlines have what they call a maintenance control center. Ours is in Minneapolis. That is the overall coordinator of maintenance activities throughout the system. Their information is only as good as that fed from the field. So if the maintenance people, be they mechanics or management in Memphis, relay this information to Minneapolis, surely there is a capability in that group of people to make a decision about whether an airplane is safe to go or not.

Ms. **Slaughter**. Well, while I have the opportunity to say this to all three of you, I certainly want to do it. And that is that the public's confidence in safety in air traffic in this country has eroded so drastically that it certainly behooves all of you to do everything you can to bring that confidence back up. I look forward to hearing again your proposals for improving Northwest's maintenance problems. If it takes more mechanics at the hubs and the spokes, and it's going to cost you some money to do it, I for one, would very much like to see you get at it.

Thank you. Thank you, Mr. Chairman.

Mr. **Oberstar**. The subcommittee will stand in recess pending this vote.

[Recess.]

Mr. **Oberstar**. The subcommittee will resume its sitting.

The Chair recognizes the gentleman from California.

Mr. **Mineta**. Thank you very much, Mr. Chairman.

Mr. Kolski, and I apologize for not having been here earlier in the day when you testified, or all three of you testified. You describe Eastern's maintenance and engineering capabilities. You describe your organization for quality assurance, and your flight operations initiatives. And it's all very impressive. Frankly, my problem is that Eastern, what I perceive, is that Eastern's management, Texas Air's management is in a war with their work force. If employees are distracted by a management's hostility, or apparent lack of concern about their interests, the organization and financial improvements may not have their full effect. Your approach toward your work force is at total variance with what I see at other airlines.

So my question is this. Why do we have what I see, perceive, as the type of fighting between management and the work force that I see at Eastern Air Lines? What—is there some kind of philosophical approach about the Texas Air companies? We see management and labor disputes at other companies. That's just a natural thing that occurs. But at Texas Air/Continental/Eastern I just feel a different kind of relationship, one that's basically unhealthy. I'm wondering if you could help me understand whether I'm wrong in my own perception.

Mr. **Kolski**. Sir, I also worked for another Texas Air company before coming to Eastern, for seven years. And it was a deregulated company that started subsequent to the Deregulation Act. I don't believe any of the hostility that you may have perceived, or you may perceive, exists at Eastern or existed at Continental at one time, existed ever in that company. So I don't think it is an operating philosophy of Texas Air to have hostility with its employees.

In the case of Eastern Air Lines, it's a proud company with over 60 years in the business. What Eastern Air Lines is fighting for is, are we going to be here six years from now? We cannot continue to be the same size airline as we are if we're going to continue to lose the same amount of money this airline has lost over the past years.

My personal observation since coming to Eastern is that back in 1978 most other airlines started to make adjustments to the fact that we now had economic deregulation. Eastern Air Lines continued to build the walls higher, the fences one more level higher, another finger in this dike, another finger in that dike. The fences can't go any higher. We've got to get out there and compete. We cannot hide behind the vestiges of regulation and expect to compete at the same level we used to. I think most employees at Eastern recognize drastic adjustments have to be made if Eastern is to continue to be an employer for 40,000 people. An airline is not made up of airplanes and management.

All the millions and millions of dollars in the world that you could put out there to put those big beautiful pieces of equipment on runways, don't do one thing until you put employees around them. An airline is made up of people, and people work for the airlines for jobs. We're after preserving this proud airline and continuing it into the future. And it's necessary to have a cost adjustment at Eastern. I think most of our employees know that. This has created hostility with the unions. We're going to have to work through that. And yes, I believe it is natural to assume, or to suggest that in this era some of the types of improvements we are tending to make, or we are making may not have the full result that they're intended to have. I think we have to continue to try day in and day out.

Mr. **Mineta**. As management you have the upper hand. What I get right now is sort of a, "If you don't buckle in then we'll strip Eastern of its assets, move it to Texas Air Corporation."

Mr. **Kolski**. I don't think you've heard any statement from Texas Air, Eastern or Continental——

Mr. **Mineta**. You've already done it with your L-1011's, have you not? Transferred from Eastern to——

Mr. **Kolski**. No; I think—no, we did not. I think you're referring to some A-300's that left Eastern's property and went to Continental. At the same time, recently Texas Air purchased some DC-9's from Trans Star, and those are coming to Eastern Airlines. In fact, some of them are on the property already.

But clearly those assets that belong to Eastern are going to be put to the most productive use possible. And if the use is a negative one, which continues to lose money, Eastern can't continue to exist.

Mr. MINETA. And does that philosophy entail also having to break the back of the unions?

Mr. KOLSKI. No, sir. We're not after breaking backs of anyone. We're after reaching an appropriate accord with our unions.

Mr. MINETA. Let me ask, if I might in the course of this, Mr. Rendleman, your title is vice president of maintenance and engineering. Is that a line job, a line officer? You are in charge of maintenance and engineering there?

Mr. RENDLEMAN. That is correct. I have all of the departments that you would call maintenance, line, base, hangar, shop, and all of the support functions including engineering, quality control, production control standards, et cetera.

Mr. MINETA. Mr. Kruse, vice president for maintenance and engineering also, I take it similar line-type function with direct control over maintenance and engineering, and quality assurance, et cetera?

Mr. KRUSE. Yes, that's correct.

All aspects of maintenance on the airline's fleets of aircraft.

Mr. MINETA. And Mr. Kolski, staff vice president and counsel for regulatory compliance. Is that—do you have direct responsibility for maintenance and engineering there?

Mr. KOLSKI. No, sir; I do not.

I report to the chief operating officer. Following the 1985 national inspection of Eastern, the one that resulted in a $9.5 million fine, Eastern decided that it was necessary to create a separate in-house FAA if you will, that's my term. That organization is called Regulatory Liaison and operational review. I earlier mentioned today, it is staffed with former retired FAA inspectors. Not people who got their experience in the FAA at a policy level decision, but people that worked as inspectors. They report to me, I report to the chief operating officer. We have unlimited authority to go out and audit and research safety issues and compliance issues. We don't go to anyone but the chief operating officer, with the corrected action that is necessary to make Eastern a safer and a more complying airline. I think by having this in-house organization, we are able to extract a better level of cooperation from the line organizations because they can speak with us and ask us questions and draw upon our expertise, without fear that recrimination in the form of a fine could result.

Mr. MINETA. You don't have line, direct line authority?

Mr. KOLSKI. I do not have direct line authority. No, sir.

Mr. MINETA. But do you do, then, the liaison with, or your staff does the liaison with the PMI's?

Mr. KOLSKI. We have liaison with the PMI, but our primary function is to act as an in-house PMI and as an in-house POI and PAI. We do have some of the liaison. We do not take it away from the line authorities, or the line responsibility.

Mr. MINETA. One of the things that I'm concerned about is that we've deregulated the economic regulation of the airlines, but we did not deregulate safety, and that's a line that you've also used in your statement, Mr. Kolski.

But in terms of trying to improve the bottom line, airlines have eliminated a lot of positions. I don't think they've shortcut safety, but I think they've done things to try and cut back on expenses. One of the jobs that used to exist when we had a regulated environment was something that might be akin or called something like vice president, safety. An independent office not under maintenance, not under operations, but sort of like an inspector general. A person who had that safety solely as his responsibility. Most airlines don't have now a safety officer in a high visibility position. They may have vice president, maintenance and engineering. Somewhere within that they may have director, office of safety, or somewhere else in the structure. I'm wondering, should there be someone like a vice president for safety? I know everyone says, "No, safety is our primary concern." I know that. So is ours. Every member of this committee thinks of safety as being his primary concern. All of you think of it as being your primary concern. Captains of their craft consider it their primary responsibility. But I'm wondering whether or not we shouldn't have someone in a high visible position who ought to have as his primary authority within the company, safety.

Any comments on that?

Mr. KOLSKI. You've described the organization that reports directly to me and what we do at Eastern Airlines. Now is that a requirement for every airline? I don't know. Should it be? I don't know. Eastern made a determination, it was appropriate for Eastern.

In addition, we have a ground safety function that reports to me. And there is a flight safety function that reports to the vice president of flight operations and assistant chief pilot. But the organization you describe basically is intact at Eastern Airlines. I don't know if it's necessary or appropriate for other airlines.

Mr. MINETA. Mr. Rendleman or Mr. Kruse.

Mr. RENDLEMAN. We at Northwest, Mr. Mineta, have taken the approach that safety is everyone's job. We do not have one who is titled vice president of safety. Yet we have safety committees in each of our labor groups, at each of our locations. We have quality assurance, which is an arm of safety, if you will. We have a flight standards department, which again is an arm of safety. We have a manager of external FOD, for engine protection, who also does ramp checks, which is in the interest of safety, et cetera. So I think at Northwest, anyway, we've covered the gamut, although we do not have one who is the overall coordinator of that, but let safety continue to be everybody's responsibility.

Mr. MINETA. And how do you control let's say quality assurance within your maintenance operation?

Mr. RENDLEMAN. Reporting to our director of quality assurance, are a group of auditors. They today number six. Those auditors' primary responsibility is to look at ourselves and our shops, and our hangars, and our line maintenance stations, look at our vendors and other people who provide us parts, look at our on-call agreements with other carriers and what services they provide us. And continually to audit these different functions and report back to us so that we'll have an ongoing dialog, if you will, of where each of our departments stand in regard to performance with our own procedures and manuals and regulations, and also the safety aspect. That's a paramount part of their inspection function.

Mr. MINETA. Mr. Kruse, anyone at American Airlines with specific responsibility in safety?

Mr. KRUSE. Yes. We have a safety officer who reports directly to the senior VP of operations at American. In addition I have a quality assurance function that reports to the assistant vice president of engineering and quality assurance. Their job is to audit the operating airline with regard to maintenance, the line stations, the shops, the subvendors to whom we farm out sublevel component work. And also to provide quality surveillance of our franchise carriers, the American Eagles.

We have a similar function in flight ops, who monitors the training, surveillance and the flight, and also monitors the flight operating procedures of our Eagle carriers.

Mr. MINETA. Do you advance any monies to your Eagle operations for, let's say if their cash flow is such that they won't be able to do some maintenance work along the way? Does American ever advance them anything?

Mr. KRUSE. No, sir. The American Eagle operation is a franchise operation. If they fail our flight operations audits or our maintenance audits, they are given a finite period of time to make the required changes or they will cease to be an Eagle carrier. There is not a financial infusion to enable them to comply. They're expected to be able to do it on their own.

Mr. MINETA. Mr. Kolski, you described extraordinary increases in Eastern's monetary resources devoted to maintenance and engineering. I believe there was a reference to a 42 percent increase from your 1985 level and the increase from 1983 on a per flying hour basis. Now to me this could indicate that extraordinary resources are required to fix something that had gone wrong as opposed to building upon that which was already good.

I was wondering if you might want to comment on that?

Mr. KOLSKI. I think that in the case of 1986, where our maintenance work force exceeded, was the highest in the last five years that is essentially correct. There were some problems that emanated from the 1985 national inspection that required extraordinary efforts by Eastern during 1986. I think those are behind us and now we are back in a normal plane.

More than trying to advertise or present to you evidence that Eastern is doing more today with respect to maintenance than it was doing before, we wanted to clarify and show that the so-called cost-cutting or corner-cutting has not happened in maintenance. If it had, I think you would see those numbers go down. The number of mechanics we have, the number of maintenance stations we have, the amount of training we devote to mechanics, the number of dollars we spend on maintenance, are all up since 1978, are all up since 1985. And we just wanted to make sure that you didn't have the impression that this so-called cost-cutting or corner-cutting was happening in maintenance. It isn't.

Mr. MINETA. Mr. Rendleman, like Mr. Kolski, you also describe significant increases in maintenance expenditures. You say that total maintenance and engineering expenditures have increased by 58 percent per aircraft from 1982 to 1987. Was this a question of improving reliability or had your aircraft fallen into a state that required extraordinary increases of these kinds?

Mr. RENDLEMAN. We discussed this briefly earlier. As aircraft age, obviously maintenance costs per unit increase as well. Older airplanes require more work than newer airplanes do. The majority of the increases at Northwest have come about because of hub and spoke. We now have more line stations, as Eastern and American do as well. We have more inventory at those line stations than we had before. And obviously we have more mechanics at those stations. So I think the overall increase in maintenance costs have been directly related to the expanding network, if you will, of our maintenance operation.

Mr. MINETA. Yesterday we also heard some testimony as to whether or not there was a practice among airlines about reducing parts inventory or number of mechanics at stations. So that there would be an inability of the airline, or that they would then have to go ahead and fly an aircraft because the parts would not be available at station X, and they would have to go onto the next place.

Would you say that in your hub and spoke operation, there is anything we ought to be aware of that's happening at stations where parts are being minimized to require flying onto the next station, despite an MEL?

Mr. KOLSKI. I'll answer first. I think as the hubs have gotten bigger and the flights from the spokes, in terms of number per day, may have gotten smaller you have seen a reallocation by airlines of spare parts to those places where they have the greatest number of flights.

Eastern Airlines used to be an extremely large operator in Charlotte, NC. Eastern Airlines could not compete with another competitor and the number of flights have been reduced from I think in excess of 80, down to the single digits. Obviously Eastern Airlines have moved the parts out of Charlotte, have lowered the number of mechanics in Charlotte, to the dismay of the employees in Charlotte. We couldn't compete. The resources were reallocated. Clearly I believe those employees would feel better if we continued to stock 80 departures worth of parts in Charlotte. Somehow that would give them the assurance that their jobs would remain there. That is not the wise decision. Airlines tend to put the parts where the airplanes are the most. And the bigger the station in terms of number of departures, the more parts that are going to be there. There has been a reallocation of parts.

Mr. MINETA. Mr. Rendleman.

Mr. RENDLEMAN. At the merger, and I'm talking about the merger date as the operational merger, the first of October, 1986, Northwest had approximately 20 line maintenance stations, and Republic had approximately 20 line maintenance stations. Today we have 35. Some of the ones that existed on October 1, we have closed. Additional stations have been opened.

We meet periodically, and I'd say at least once a month if not more often, with market planning and we look at their future schemes and where they are attempting to operate certain fleet types and where the concentration of airplanes will be available to us with sufficient ground time to work on them, and primarily I'm talking about the hours after dark. And we evaluate which of those stations have long-term ability to service effective maintenance stations, or which ones that have not been maintenance stations in the past now fall in that category that they are logical maintenance stations. So we have opened and we have closed maintenance stations as we've gone through this transition. In fact, on about November 15, we will open Indianapolis. When the airline combined on the first of October, Indianapolis only had two overnight aircraft. Today it overnights four aircraft. So having availability of four aircraft from approximately 8 p.m. in the evening until 7 a.m. the next morning, has dictated that we make use of that available ground time, go into Indianapolis, create some facilities, put in about $300,000 worth of parts, hire 14 additional mechanics, and staff that station at least for an overnight operation so that we can utilize that ground time to work on the aircraft.

So it's a dynamic system. As I said, there have been a lot of changes since the merger and there will continue to be changes as the route structure finalizes.

Mr. **Mineta**. Fine. Thank you very much.

Mr. Chairman, thank you very much.

Mr. **Oberstar**. The gentleman from Pennsylvania. And if we're in the midst of a vote, we'll proceed as long as the gentleman has questions and then return shortly after that vote.

Mr. **Clinger**. I just wanted to get back to one item. And that is this issue of contracting out. Can each of you give me a sense of what percentage of your maintenance work would be considered contracted out as opposed to being done in-house by your own personnel.

Mr. **Rendleman**. From Northwest's prospective, at the merger as a percentage, Northwest probably did in-house 95 percent of component overhaul. Republic, on the other hand, did approximately 75 percent of its internal component overhaul. Both carriers together did 100 percent of their heavy checks, and both carriers together, as I said, had approximately 20 line maintenance stations. The rest of the line maintenance, although not scheduled, was performed when necessary by other contractors, be they other airlines or FBO's. Since the merger we have made a great effort to bring in-house, if you will, components that Republic used to have done outside, because we now have the tooling and the capability of the shops, et cetera, to bring those components in. A typical example is landing gear. Republic used to send the majority of this landing gear to a couple of very reputable manufacturers or overhaul facilities to have the landing gear overhaul. We now do the majority of that work inside.

Currently today, there is only one component that I'm aware of that we send outside the country for repair at a sole source vendor. And approximately, overall, less than 10 percent of our components actually go out to vendors for repair. So I could say that the vast majority of the stuff is now done in-house by Northwest employees.

Mr. **Clinger**. On a combined basis, now?

Mr. **Rendleman**. Correct, combined.

Mr. **Clinger**. Mr. Kruse.

Mr. **Kruse**. We have 140 destination stations within the American system, in the Caribbean, Continental U.S., Pacific and Europe.

Of those 140 stations, we have American mechanics stationed at 39. The remainder we have on-call maintenance arrangements with other carriers or fixed base operators at those locations which are used only on an on-call basis in an emergency situation where something has malfunctioned or is broken and we cannot leave that station with the airplane in that condition. They are not used for the scheduling of routine maintenance at all. They're simply a backup in case an airplane breaks down off our main maintenance system network.

Ninety-eight percent of the maintenance manhours spent on American's fleet of aircraft is done by American's mechanics. That's of the aircraft at the line stations. At our maintenance center in Tulsa, OK where all "C" checks are the highest level of major maintenance that we do, is done, we do 100 percent of all the aircraft work. Of the units and components that can be removed from the aircraft, 90 percent are overhauled at the Tulsa base. Ten percent to either original equipment manufacturers or other specialized vendors for repair and/or overhaul as necessary. As we grow our airline from 400 aircraft up to around 585 by the year 1991, we expect that level of component work going to outside subvendors to increase to around 30 percent.

Mr. CLINGER. Then I'd ask Mr. Kolski if you would comment.

Mr. KOLSKI. At Eastern all of the heavy checks, the "C" and "D" checks, 100 percent of the work is done in Miami and Atlanta on our own airplanes. Well in excess of 90 percent, I think close to 94 percent of all the component overhaul work is done by Eastern Air Lines' mechanics. In terms of line maintenance we have our own mechanics at 39 airports. At the additional approximately 90 airports where we do provide service, we have, like American, on-call emergency maintenance.

I would emphasize to you though, that does not mean that this on-call emergency maintenance does all the maintenance at that station. At some stations the maximum amount of maintenance that might be done by a FBO might be to change a tire. If it is an involved process we will do what is commonly referred to as a field service trip, sending our own mechanics with parts to the airport where the airplane is. At some stations we're fortunate enough to have arrangements with other airlines who operate the same aircraft. And at those stations, of course, they do get allowed—we do permit them and make arrangements for them to do more extensive work. But I would say in excess of 95 percent of all manhours spent on an airplane from maintenance in a line maintenance environment is done by an Eastern Air Lines mechanic.

Mr. CLINGER. Mr. Chairman, I would like to pursue this line of questioning, but maybe we ought to go vote.

Mr. OBERSTAR. We have 5 minutes remaining on the vote. We'll recess and return.

[Recess.]

Mr. OBERSTAR. The subcommittee will resume. When we recessed, the gentleman from Pennsylvania had the floor and will continue his questioning.

Mr. CLINGER. Thank you, Mr. Chairman.

Just following on this issue of contracting out, from what you're telling me, gentlemen, you're saying that even though you have gone now almost universally to a hub and spoke system, which involves being in a lot of different places, you have not found it necessary to increase the amount of contracting out, but in fact you have reduced the amount of contracting out, is that accurate?

Mr. **Kolski**. That's accurate.

Mr. **Clinger**. From what it was before you went to a hub and spoke situation?

Mr. **Kolski**. That's accurate.

[Witnesses shaking heads in the affirmative.]

Mr. **Clinger**. Well, now just to allude to one event that we have heard testimony about, which was the Eastern hard landing and the following developments, that inspection was done by American. Is that correct?

Mr. **Kolski**. The inspection in Tulsa was——

Mr. **Clinger**. Was done by American?

Mr. **Kolski**. Was performed by American.

Mr. **Clinger**. So in that instance in Tulsa, you, Eastern, contracted with American for maintenance services?

Mr. **Kolski**. For emergency maintenance, and this was considered emergency maintenance, yes.

Mr. **Clinger**. Are the inspection procedures that American has, or the inspection manual that American uses for 727's, the same as the inspection procedures and manual that Eastern uses for its 727?

Mr. **Kolski**. My understanding is they are not. But I believe the gentleman from American can confirm that.

Mr. **Kruse**. That's correct. Both airlines use the basic Boeing 727 manual. In American's case in areas where we want special things done, or we believe that clarity is needed to the manual, we provide separate special work item cards that have step-by-step instructions and mechanic and inspector sign-offs as we deem appropriate.

In the hard landing section of the Boeing manual, the American manual refers the mechanic to a special items card to proceed with the hard landing inspection. In Eastern's case, they use the Boeing manual pretty much in its vanilla form. And so our mechanics in doing work for Eastern were following Eastern's manual.

Mr. **Clinger**. That was what I wanted to identify. In that instance where you were doing work contracting for Eastern or for any other airline, you would follow their manual and not your own?

Mr. **Kruse**. That's correct.

Mr. **Clinger**. Is this an area of possible problem? In other words, where you are contracting out and where each of you has a different approach to handling maintenance on an aircraft, is there a possibility that something can slip through the cracks here because you have a different approach? And where you were doing the contracting that might suffer, safety concerns might suffer?

Mr. **Kruse**. I must answer yes, because in this case in our view it did slip between the cracks. We followed a 1(b) inspection, a paragraph 1(b) inspection which required only landing gear and surrounding areas be inspected. Our mechanics felt——

Mr. **Clinger**. Why did you—because that's what the Eastern manual required?

Mr. **Kruse**. Well, the Boeing manual is in my view, not sufficiently clear in that area. The manual describes hard landings, overweight landings and high side load landings all in the same section. They run you around from paragraph to paragraph picking out the portion that is appropriate. Our folks at Tulsa felt that they got guidance from the pilot and/or the Miami Tech Services function at Eastern, that paragraph 1(b) was appropriate. There is still some confusion there between us and Eastern as to precisely what went on. I could find nothing in our folks logs that directed them specifically by Eastern to paragraph 1(b), but only the general section of the manual. But they have subsequently stated that 1(b) was recommended and concurred with by Eastern. Our later detailed investigation of the manual, it went through three layers of management before it was determined, but we determined that purely by the manual the paragraph 1(a) inspection was in order and it would have required that we look at the upper fuselage.

Now given that, we have taken actions that we deem to be appropriate to assure that it doesn't happen again. You must consider at Tulsa, it was bad weather conditions, and it was around 10 p.m. with rain and thunderstorms, which I presume contributed to the hard landing. Without being directed or thinking they should have gone to the upper fuselage and requiring a manlift and going up there with flashlights, they wouldn't be able to see the wrinkles in the skin. I think our folks did a reasonable job, all that we in management would expect, to try to run down what was appropriate. And to try to do the proper inspection. They did document precisely the inspection they did in the aircraft log, and made reference to paragraph 1(b).

Mr. **Clinger**. Let me ask you, if the plane had been an American plane, under an identical situation, would you have made the fuselage inspection?

Mr. **Kruse**. The upper fuselage inspection. Yes, we definitely would have. In our view it should have been done at Tulsa, and it should have been done in Kansas City.

Mr. **Clinger**. So under your manual it would have been done that way?

Mr. **Kruse**. Yes.

Mr. **Clinger**. Well, I guess this gets to the question, do we need to have greater uniformity in the manuals? Do we need to have a uniform procedure here for the type of aircraft, so that this kind of falling through the cracks doesn't occur?

Mr. **Kruse**. Well, I think that's an ideal situation. I think there are many, many, many circumstances that we could take you through that makes that virtually impossible. All the airlines' airplanes are not identical. There are many options that may be ordered just like an automobile from the manufacturer, that are different that necessitates different manuals to cover those mechanical and electrical components. There are basic differences in airlines' maintenance programs. Neither one being particular better than the other, but tailored and packaged to the type of routes and flying that the particular airline does. The number of hours per landing, which we call utilization, affects the frequency of inspections. All of these things vary from airline to airline.

So I think by necessity, you will never get the airlines identical and would not want to.

Mr. **Clinger**. Then how could we have avoided——

Mr. **Kruse**. Well, in any of these events that surface this way, we take very positive action to try to assure ourselves they will never happen again. In retrospect, that upper fuselage obviously should have been looked at. We wish we had looked at it in Tulsa. We have taken action to correct this in the following manner. Number one, we put an alert wire out to all of our maintenance stations who do contract work for others that may be referred to the Boeing manual. We spelled out the area of confusion and directed them as to precisely what it means. A hard landing inspection will get the following. The second action we took, was to wire Boeing and recommend for the peer Boeing manual, that that section of the manual be clarified. It is my understanding that the FAA and/or the NTSB intends to do likewise.

So these are the kind of actions we take to try to preclude any events such as this ever happening again. And that is our goal.

Mr. **Oberstar**. Would the gentleman yield?

Mr. **Clinger**. I'd be happy to.

Mr. **Oberstar**. Did I miss one? You had two. I thought you said there were three points?

Mr. **Kruse**. In regard——

Mr. **Oberstar**. You talked about contract stations and hard landings, clarifying the Boeing manual and a third item?

Mr. **Kruse**. I guess there were two. Let me refer to my notes.

Mr. **Oberstar**. What I really wanted to get at was on contract stations on the hard landing, your directive to your contract stations, does that mean that you will conduct the inspection as per American's procedures not per the contract aircraft?

Mr. **Kruse**. No. See, any time we do aircraft for others, we must use their manual. In general those other manuals will usually be the generic Boeing manual. Okay?

Now we have the right to change the Boeing manual for our own use. We cannot change though, the basic manual that is used by others. So the action we take in that case, is to recommend that Boeing change it, and in the meantime put out definite instructions to our mechanics as to how to interpret it until it's changed.

Mr. **Clinger**. I guess the next question then would be to Mr. Kolski. Mr. Kruse has said that in this particular instance, under the American manual, there would have been an inspection of the upper fuselage, and apparently under Eastern's that was not required. Would this indicate then that Eastern should change their manual to provide for such an eventuality?

Mr. **Kolski**. Well, I'd like to correct something. I think under our manual, the upper fuselage inspection is required, was required and is required for that pilot report. We have only one hard landing inspection. Somehow, and I don't want to point the finger, a hard landing inspection was not performed. An overweight landing inspection was performed. Eastern doesn't look at American and say "It's your fault."

I came from an airline where virtually all maintenance was contracted out, as opposed to Eastern where very little is contracted out. It is the certificate holder's responsibility to perform maintenance, whether he does it with his own employees or the employees of another concern. I think that event could have been prevented by a more conscientious follow-up by Eastern's maintenance control function, we call it Tech Services, in Miami. The thing that puzzled us, and we were not happy over, was there appeared to be no follow-up with the American Airlines people in Tulsa, after the initial phone call. I think if that follow-up had happened, and I assure you it will happen the next time and every other similar time, that further discussion initiated by Eastern would have revealed that American mechanics, for whatever reason had been tracking down a misapplication of our manual. If that had occurred, I think that airplane wouldn't have left Tulsa.

I'd also like to point out to the committee, that that airplane was there for, scheduled to be there for something like 9½, 10 hours. There was no pressure to get that airplane back in service, and I don't think there was any intention by Eastern or by any American personnel to quickly get that procedure over with and done. There was an error. I think Eastern shares, if you want to assess responsibility for it, it does under the FAR's have responsibility for it. I think there was something more we could have done.

Mr. CLINGER. Mr. Kruse has indicated that they have instituted a new procedure and I gather you have taken some steps since this event to try to avoid a repetition of it?

Mr. KOLSKI. Yes, we have. As I mentioned to you, the main concern we had was the fact that we didn't initiate any follow-up. I mean here we had an airplane that had a hard landing——

Mr. CLINGER. Have you given instructions to Miami now?

Mr. KOLSKI. Yes. Hard landing inspection and we knew American was doing it, and we didn't know if that airplane was airworthy for the next morning. I mean passengers were going to arrive to depart. We'd like to call them ahead of time and say, I'm sorry, your flight is canceled, or it's going to be delayed, if we could. We have that responsibility to the traveling public to do that passenger convenience item as well. So we dropped the ball in that respect.

Mr. CLINGER. Thank you, Mr. Chairman.

Mr. OBERSTAR. Mr. Molinari?

Mr. MOLINARI. Mr. Kruse, with reference to the issue of contract maintenance you've said before that American in very few cases contracts out repair work. There is one company that is doing a lot of advertising on television, stating that they're doing maintenance for most of the major carriers. Would you comment on how that affects your carrier and what you know about that?

Mr. KRUSE. I presume you're referring to the Continental's ad that indicates that they even do work for American?

Mr. MOLINARI. Yes, precisely.

Mr. KRUSE. That is true. We have on-call emergency maintenance agreements with Continental at two stations, Burbank and Albuquerque. Over the last nine months, I think they have billed us for 3,400 manhours worth of work. That constitutes, I believe 1/200th of 1 percent of our 6 million manhours spent during that time period.

Mr. MOLINARI. I guess the logical question is—maybe Mr. Kolski is the one that should address this. In light of that figure, is it fair to make such a charge in your T.V. advertising campaign, 1/200th of 1 percent?

Mr. KOLSKI. Fortunately, I am not in advertising or in marketing, nor do I work for Continental. So I hope you will understand why I would like to let you ask that of a Continental employee as opposed to me, an Eastern employee.

Mr. MOLINARI. Well, all right. We'll do that.

Let me ask you this question. Eastern has eliminated its safety department and its meteorological department, has it not.

Mr. KOLSKI. Not true. Absolutely not true.

Mr. MOLINARI. Not true. Both of them still maintained?

Mr. KOLSKI. Both of them are maintained, yes.

Mr. MOLINARI. Then I stand corrected.

Mr. KOLSKI. Now, I should explain.

Mr. MOLINARI. Please do.

Mr. KOLSKI. By the safety department, I believe you mean certain persons that formerly were employed in flight operations in a safety function?

Mr. MOLINARI. That's probably what we mean.

Mr. KOLSKI. Those people have been replaced and this function has been expanded. The meteorological department is still in place. As opposed to, however, with a meteorologist heading it up. However, during this past few months, Eastern made a determination that instead of generating its own weather forecasts internally, it could buy that service at a more economical price, and get a better product by the way, by doing it like just about every other airline, American included. And it elected to go that way. We still have a meteorological department. Instead of generating forecasts inhouse, we buy those forecasts from private concerns and the National Weather Service as well.

Mr. MOLINARI. But the dissemination of the information, the process remains the same.

Mr. KOLSKI. Absolutely.

Mr. MOLINARI. Okay.

Let me just turn to one last bit of questioning. Mr. Kolski, I don't know whether you heard some of the testimony yesterday. This again talks about the altitude warning system, then the ground proximity warning system. In one case—now I don't know whether these are cases that there are legitimate deficiencies or whether it might be caused by the labor problems that we've talked about today. But looking at the record that was furnished to us, on Eastern Aircraft No. 863—would that be one you'd be familiar with background-wise by the number itself?

Mr. KOLSKI. I believe it is a Boeing 727 that flies in the shuttle that formerly was a PSA airplane, yes.

Mr. MOLINARI. Okay. Good.

According to this information, the altitude warning light and the ground proximity warning system was malfunctioning and was originally reported on June 16, 1987 and as indicated yesterday, on six subsequent occasions. It was grounded and apparently sent to Miami, according to the information I received, on June 30, 1987. Now I can't tell by looking at the maintenance logs whether the intermediate locations were those where you might have had the parts to be able to repair it. In light of the conversation you had with the Chairman earlier today that had the parts been at any of these airports where the plane landed, then it would have been laid over and those parts would have been replaced. But we do have some flight numbers and I'm wondering whether, by the flight numbers, whether you could tell us where the aircraft would go——

Mr. KOLSKI. I'll try.

Mr. MOLINARI. Okay.

The first one is 964?

Mr. KOLSKI. No good.

Mr. MOLINARI. You wouldn't. Okay.

The second one says none. How about 048?

Mr. KOLSKI. Sorry.

Mr. MOLINARI. How about 932?

Mr. KOLSKI. Sorry again, sir.

Mr. MOLINARI. Let's try 683.

Mr. KOLSKI. I'm sorry again.

Mr. MOLINARI. There's 683 again, 6292?

Mr. KOLSKI. I'm sorry.

Mr. MOLINARI. Then 211?

Mr. KOLSKI. No.

Mr. MOLINARI. Then 522?

Mr. KOLSKI. No.

Mr. MOLINARI. There's 683 again.

Maybe consultation with all of those long standing pilots behind you might be able to shed some light. Would you mind just asking them if they can indicate to you?

Mr. KOLSKI. Without knowing the date, and sometimes flight numbers change, I think it might be better if you would allow me to research that with the date and tell you where that airplane flew, and provide that subsequent to today.

Mr. MOLINARI. Fine.

In fact, let me do this with you. Maybe I can send down this copy to you.

This is my final question. I'm just wondering if looking at that, either you or the pilots may be able to identify some of the airports involved? There may be other identification on there.

Mr. KOLSKI. Well, I can tell you this aircraft 863, flight 964, departed DCA. That's Washington National Airport. The next log page I can't identify. The third log page, Boston. The fourth log page, Detroit. And the fifth one you presented me, Atlanta. And the sixth one, Philadelphia. The seventh one, Philadelphia. The seventh one, Washington. The eighth one you present me is MCI, that's Kansas City.

Mr. MOLINARI. Great.

Mr. KOLSKI. The ninth one, I can't tell. And the last one, Atlanta.

Mr. MOLINARI. All right.

So we did better than I thought. Now tell me, of those airports mentioned would they have been airports where normally the parts in question would have been present and the replacement could have taken place?

Mr. KOLSKI. If I am correct, this aircraft, as I mentioned earlier, is a Boeing 727 formerly owned by PSA. I stand corrected. I should stop my testimony, because anything I say is probably not going to be accurate. You're going to have to allow me to research it.

Mr. **Molinari**. Fine.

I have—let me ask you this one last question.

I asked you the question earlier today about your inventory. Can we go back? Is it on computer? I would assume your parts would be on computer. Could we go back to a particular date and find out whether those parts were in inventory at the particular airport on——

Mr. **Kolski**. It is very difficult and time consuming, but I have been told when I've asked before that it is possible in most cases, not all, to ascertain that fact for you, sir.

Mr. **Molinari**. Okay.

Mr. **Kolski**. Namely, was there a serviceable part at that station on that date?

Mr. **Molinari**. It is difficult to ascertain that?

Mr. **Kolski**. It is very difficult, and in most cases we can do it, but not in all.

Mr. **Molinari**. All right.

Mr. Chairman, I'd like to furnish to the witness, a copy of several similar circumstances and ask him to do a review for us and then report back in writing to the subcommittee his findings so that we can ascertain whether, in fact, there were parts available, or whether somebody opted to continue with the flights and not replace the items. I think that's important to our inquiry here.

Mr. **Oberstar**. Will the gentleman share with the subcommittee counsel on both sides, the questions we can review so that we're clear as to those questions? And the witness can respond to the subcommittee and we'll see to it that Mr. Molinari receives the response, and we'll include—the Chair will ask unanimous consent to include the questions and the response in the committee hearing record.

Without objection so ordered.

Mr. **Molinari**. I have nothing further.

Mr. **Oberstar**. I thank the gentleman for the points raised. I think they're very important, indeed.

Going back to a question earlier about the number of maintenance facilities in the domestic United States, Mr. Kolski, if my notes are correct, you said Eastern has 39 maintenance facilities with Eastern Air Lines mechanics?

Mr. **Kolski**. Thirty-nine stations where Eastern's employees, its own employees, or its own mechanics, yes.

Mr. **Oberstar**. How many contract facilities?

Mr. **Kolski**. I believe our total station count is 120.

Mr. **Oberstar**. 120 contracts?

Mr. **Kolski**. 120 total cities where we operate.

Mr. **Oberstar**. So it would be——

Mr. **Kolski**. Excuse me, it is 132.

Mr. **Oberstar**. 132, so it would be a little under 100, about 91 stations that are contract stations?

Mr. **Kolski**. Ninety-one stations where we have emergency maintenance arrangements, or contracts, yes. We do not contract for any scheduled service or any scheduled maintenance to be performed.

Mr. **Oberstar**. Only for emergency maintenance?

Mr. **Kolski**. Emergency maintenance, right.

Mr. **Oberstar**. It's good to have that clarification.

Mr. Rendleman, your testimony indicated Northwest has 28 domestic maintenance facilities staffed by Northwest personnel?

Mr. **Rendleman**. That is correct.

Mr. **Oberstar**. How many contract stations for emergency maintenance operations does Northwest maintain?

Mr. **Rendleman**. I think, Mr. Chairman, we fly to 132 cities. That includes the international operation as well. There are seven maintenance bases in the Pacific—sorry, six in the Pacific and one in the Atlantic. Then there are the ones that you just mentioned that are domestic stations. So that at the rest of those stations we have contract maintenance arrangements. However, like Eastern, we do not schedule routine work to be done in those locations. It is only on an on-call, as-necessary basis.

Mr. **Oberstar**. And for American, how many domestic maintenance facilities or stations does American have and how many contract facilities for emergency maintenance procedures?

Mr. **Kruse**. We have 39 fully staffed, or staffed maintenance stations with American mechanics. We have a total of approximately 140 cities that we operate to. That is not all domestic. It's throughout our route system.

Mr. **Oberstar**. And at all those cities that are other than American maintenance bases, do you have contract arrangements?

Mr. **Kruse**. That leaves 101 cities where we have emergency maintenance arrangements with other companies. But I would want to add again, that the work that those 101 cities do is 1 to 2 percent of the work done.

Mr. **Oberstar**. I would expect that.

Now for those maintenance stations that are the company's own, that are not contract stations, can you provide for the committee, can you describe for us without going into excruciating detail, the kinds of spare parts inventory that is maintained at those facilities?

Mr. Rendleman, what are the spare parts typically maintained at those facilities?

Mr. **Rendleman**. The minimum, Mr. Chairman, are tires, tires and wheels. At each station to which a Northwest aircraft operates, we provide that station with tires and wheels so that the airplane can be fixed to get out of town.

Let me go back a little bit further. Our criteria for a maintenance base is three overnight aircraft or greater. So the vast majority of stations that do not have Northwest employees have two overnight aircraft or less. Now those may be a city that's only served by one of our hubs. Consequently it only has three departures a day, and one of those three may be a morning departure, and therefore that constitutes an overnight. Some of those may have up to six or eight operations a day. But they're very small cities, comparatively speaking.

So, category one are the ones that only have tires. The next category would be stations that have what we refer to as "get out of town" parts. Those that are absolutely necessary for flight. The airplane can depart there with these components inoperative. And we're talking cockpit indication systems primarily. The next classification would be what we consider a maintenance base, but the staffing is only there on midnight shift. Generally, I said, the volume of parts at those locations, dollar figure, is between $250,000 and $300,000. And again it depends on the mix of aircraft. As I said, with our diversity of fleet, Boeing once described a 727 as 22,000 parts flying in tight formation. So if you take those 22,000 that constitutes that airplane and multiply it by the fleet that we have, you have to adjust the inventory based on the number and types of aircraft.

In fact, that's exactly how we allocate our parts. Again, our computerized inventory system at each schedule change looks at every aircraft that has a departure and/or an overnight into a base and gives that an equation formula so that our parts are allocated by the stations that need them the most. So if a station, for instance one of our hubs, has a lot of operations of this particular type of aircraft, it will be allocated a certain number of components. And a station with fewer operations, fewer, and so on and so forth.

Mr. **Oberstar**. As deregulation allowed airlines greater flexibility to move and make changes with greater speed than before, did airlines notice, did Northwest in particular notice a problem in inventorying spare parts for the many different types of aircraft and series within those types at its various locations?

Mr. **Rendleman**. Yes, sir, we did. Especially in October of 1986 after the combined operation. I'm happy to say that our total level of inventory has gone up considerably since that period of time, because we were faced with an aircraft type that historically only operated to a limited number of cities in either of the old companies. And now we find there were marketing advantages in sending that particular type of airplane, and let me use the DC-9 for instance, to a lot more locations. So the inventory that we had was not adequate to support those additional line stations. And at that point, we had to add additional components to our overall inventory to support these additional line stations that this particular type airplane flew to.

Mr. **Oberstar**. Conversely has the company had to make a decision not to send, say, a 757, to a particular destination because at that destination there were no spare parts available?

Mr. **Rendleman**. No, sir. I'd like to say that I have a little more clout than the marketing department, but I don't. And wherever they schedule the aircraft, then it's my job to increase our inventory to support that operation. It may not happen instantly, but it certainly happens over a period of time.

Mr. **Oberstar**. Thank you.

Mr. Kruse, could you go through the same—walk through the same questions that I asked Mr. Rendleman?

Mr. **Kruse**. Maybe you would take me through the specific questions.

Mr. **Oberstar**. The question first is, the categories of spare parts maintained at the domestic maintenance facilities of American? Northwest had three categories of spare parts that are maintained at three different levels of station. Does the same approach apply at American?

Mr. **Kruse**. The same approach, a little different detail. We have what we call four classes of cities with regard to maintenance. Class One cities are heavy check-capable up to a "B" check in our maintenance program. Class Two cities are capable of "A" checks and selected "B" checks. Class Three cities are generally nonmaintenance staffed cities. And class four cities are non-class three cities that are non-fulltime maintenance staffed cities. Class four cities are no maintenance staffing, 100 percent reliance on emergency maintenance contracts.

Now as far as the parts and the logistics of where we put parts, I noticed a number of comments that seemed to indicate a concern that we might not put parts in a place in order to fly through that. It's, I guess, a monumental lack of communications that those kinds of, I think, thoughts would occur toward the majors, in that we have half a billion dollars worth of spare parts inventory. We have some 300 people whose job it is to move it to the right place at the right time. We have 60 analysts who do nothing but analyze models that consider the priority of the part, whether the airplane is dispatchable without it, conditional dispatch, in other words covered by the MEL or nonessential. We take into consideration the lead time on the parts from the manufacturer, some 30 parameters that go into our modeling equation, and we have an operations research department with 15 people dedicated to nothing but working on that model as experience is gained to try to have the right parts in the right time. To drive all that we monitor the number of times an airplane is delayed or canceled for lack of a part, and we try to drive very high standards on that.

We monitor the number of times that a maintenance or open item is deferred, even though it didn't cause a delay or a cancellation. We monitor every time a deferral occurs because of no part. Then at the highest level of scrutiny, we monitor every time a mechanic asks for a part and doesn't get it. We drive very high standards, none of which are below the 96 percent service level on all three of those.

Mr. **Oberstar**. Thank you very much for that——

Mr. **Kruse**. So we put a great deal of effort into that. The minimum that we would put into a station where we operate is $50,000. For a class two or three station that is used to break aircraft routings, the minimum kit that we put in is $1 million.

Bear in mind we have seven fleet types, 16 subfleets under that, and 140 cities and schedule changes every month.

Mr. **Oberstar**. Yes, sir. I——

Mr. **Kruse**. There's a lot of logistics to it.

Mr. **Oberstar**. I recognize that, that's why I raise the question. I think it's important to have it on the record.

Mr. **Kruse**. We don't always have it there, but we spend a tremendous amount of energy and state-of-the-art technologies in computers and people trying to be sure that we do.

Mr. **Oberstar**. I have seen that similar system in another airline in operation and I know the extent and the vastness of numbers of parts and the cost, the very, very high cost that is involved here. I think it's important to have that on the record, and likewise to know how you prioritize. I think it's important to know what are considered to be high priority items and how many of those you can place at various stations.

Mr. Kolski, would you give us a look at the similar conditions operative at Eastern?

Mr. Kolski. Yes, I would. But before doing so, I'd like to point out that the general operating philosophy of any maintenance organization is to fix the airplanes, fix them right the first time and minimize the number of spare parts that you use unnecessarily. Put your spare parts where they're going to do the most good. I think every airline in the hub and spoke operation has placed the greatest percentage of its available spare parts at the hub. That's where they're going to get the most use. And since deregulation and the advent of hub and spoke, we find airplanes visiting hubs which at any airline that has any decent size hub, it is a major maintenance facility, so that airplanes are transiting major maintenance facilities, two, three, four, and even six times a day. Therefore, compared to the—or prior to deregulation I think our airplanes are seeing those stations which airlines have designated to be major maintenance facilities more often than they did before deregulation.

Eastern, like American and Northwest, has a computer program which allocates the spare parts and monitors the usage. We put our spare parts where they're going to be used and where they are used the most. Our current inventory of spare parts is in excess of $400 million. At our major hubs, Miami, Atlanta, we have by far the greatest concentration of our spare available parts. At other major maintenance facilities, and note I don't use the word base. Nowhere is that ever defined in the FAR's by the way. At our major maintenance facilities, other major maintenance facilities, for example, Kennedy and Boston, we also have a very high concentration of parts.

There appears to be some train of thought that exists amongst some airline people that the placement of a few mechanics at a station makes that into a maintenance base. That's not true. It's simply not true. And calling it a maintenance base gives the implication that therefore there is a vast resource of available spare parts. Again, not true. I'm sure you can recognize that if I, as an airline, decide to put two mechanics on the day shift, two mechanics on the afternoon shift, and two mechanics or three mechanics on the night shift to handle two overnight airplanes, that I have not created a base where I am going to put several million dollars of spare parts.

Mr. Oberstar. Well, I didn't use the term base. And I didn't refer to that term. You're the one that raised it.

Mr. Kolski. I've heard it used yesterday, and I heard it used earlier today.

Mr. Oberstar. That's not the point of my question.

Since you didn't answer the question, let me get back to specifics then. How do you decide what spare parts you're going to have at Kansas City? How do you decide what types of spare parts you're going to have at O'Hare? Do you have criteria as recited by the gentleman from American? He says, "We have 30 parameters for determining how we're going to prioritize the spare parts." That's the question I asked. I'd like you to answer it.

Mr. **Kolski**. The answer is yes. We do have criteria that determine where we're going to allocate our spare parts. The dominant criteria, though, is the usage that is actual, that we've experienced of that spare part at that station. If a particular criteria would indicate we're going to put three of a particular unit in Boston, and we go for 6 months and we've never used one, we've made a bad decision. We may reallocate those parts.

Mr. **Oberstar**. Do you do that on a regular basis? Do you have a follow-up——

Mr. **Kolski**. Follow-up on a daily basis. There's a team of people that do nothing but analyze the usage of our spare parts and determine where they can best be used and then we place them here.

Mr. **Oberstar**. Do you have a basis for establishing which spare parts you will have at what facilities in case of various conditions of an aircraft?

Mr. **Kolski**. Yes, we do.

Mr. **Oberstar**. What are dispatchable items and nondispatchable items?

Mr. **Kolski**. I don't understand the question.

Mr. **Oberstar**. Well, the conditions that American described earlier, that the aircraft is not dispatchable without the part.

Mr. **Kolski**. Well, let's take, for example, parts which would address "shall not depart a station where repairs or replacements can be made," the MEL preamble. We will place them in those facilities which we have designated to be significant maintenance facilities where we staff mechanics, and more than one or two per shift. They generally—not generally, they do correspond to our hub cities.

Mr. **Oberstar**. Then do you maintain with computer record an account of the frequency of repair, frequency of time that a part is needed at a particular station, determine that it has been a year since the part has been needed at a particular station, so you take it out of inventory there and put it someplace else?

Mr. **Kolski**. Yes, we do. And we also have a program which would say if I'm supposed to have 15 of these items in Atlanta. I'm supposed to have 10 of them in Kennedy. And I've used five in Atlanta, my program will now tell me it's time to move two or three from Kennedy to Atlanta.

Mr. **Oberstar**. What is the cost of an altitude alerting system?

Mr. **Kolski**. The entire system, all the wiring, the installation?

Mr. **Oberstar**. I don't know all the technicalities.

Mr. **Kolski**. I can't answer you in terms of the box itself. I can get that answer and send it to you.

Mr. **Oberstar**. The module itself?

Mr. **Kolski**. That's what I'm referring to by the box.

Mr. **Oberstar**. Okay.

Mr. **Kolski**. As I sit here I do not know that answer.

Mr. **Oberstar**. Is it a fairly substantial cost, without putting any dollar amount on it? I should imagine it's a pretty substantial item.

Mr. **Kolski**. There are no free lunches when you go to buy parts for airplanes.

Mr. **Oberstar**. Oh, yes. I'm well aware of that. I've looked over cost items.

How frequently does a part like—does that particular part fail?

Mr. **Kolski**. I can get the usage of that part for you if you would like at Eastern Airlines over a period of time.

Mr. **Oberstar**. I'd like to have that, and the cost.

Mr. **Kolski**. All right.

Mr. **Oberstar**. And stations at which such a part, that particular part is——

Mr. **Kolski**. Bear in mind an altitude alerting box for one airplane is not interchangeable with another.

Mr. **Oberstar**. I understand. I understand.

Does the gentleman from California have further questions?

Mr. **Mineta**. Mr. Chairman, if I might.

Mr. Kolski, I've been the recipient of a number of these little blue cards. I think one gets sent to Senator Ford, one to Secretary Dole, one to Mr. Breeding at Eastern Air Lines and I have the good fortune of receiving the other.

Mr. **Kolski**. Do you know why you get blue? Because Mrs. Dole got pink. We get brown. There are gray ones and green ones.

Mr. **Mineta**. Most of them—I mean I look at them all, but most of them I disregard except for those that have specific flight numbers or aircraft numbers. Are you following up on those at all, or are you doing it because I send them to FAA and ask them to look at those specifically?

Mr. **Kolski**. We are following up on those and the FAA is following up on those. It's apparent to me that we do not get every one that the FAA gets or perhaps you get. I do know that for the last 5 weeks the FAA has had a team in Miami and on a daily basis they have been requesting information from Eastern, flight numbers to correspond to airplane numbers. They've been requesting copies of log pages and to my knowledge they are absolutely following up on each and every postcard that they have received.

Mr. **Mineta**. And what about you? Have you been following up on those that are addressed to Mr. Breeding that might have specific aircraft numbers or flight numbers?

Mr. **Kolski**. Yes, we have. I will tell you that because the FAA has been on our property for the last almost 2 months, in a follow-up evaluation, performing a follow-up evaluation, we've had to turn some of the resources that we were utilizing for that function to satisfy the FAA's concerns. So we are behind in the process.

Mr. **Mineta**. Mr. Rendleman, let me ask. Northwest has had some significant labor problems since the merger with Republic, prompting complaints of bad service by customers and even some sabotage incidents, at least alleged kinds of things that are going on. I frankly believe that the government should have required, of course, LPP's, Labor Protection Provisions. I think the problems which continue as a result of your airline's desire to make some short-term cost savings as opposed to a commitment to long-term employee satisfaction are starting to surface. But a number of companies looking at the Northwest-Republic merger have opted for voluntary LPP's in their mergers resulting in at least employees supporting these merger efforts.

In hindsight I'm just wondering would you think maybe that LPP's or some incorporation of Allegheny-Mohawk, or some kind of provision in those mergers might have been better?

Mr. **Rendleman**. I'm certainly not an expert on labor relations, nor do I have the ability to look in the past and tell you what we should have done. Let me say this, though. In June 1986, prior to the actual operational merger, we offered to the IAM a transition agreement that would have brought all mechanics and related to the same wage scale. At the time IAM opted to take the best provisions out of the old Republic contract, and the best provisions out of the old Northwest contract, and put those things together. And obviously that would have cost Northwest a considerable amount of money. And therein began the problem.

And the direct answer to the LPP's is that, I think that the corporation offered LPP's. Maybe not identical to Allegheny-Mohawk, but labor protection to a degree, or job protection to a degree, as part of its original negotiation package. The wage restoration package remains on the table today as an open offer from the company.

Mr. **Mineta**. Mr. Kolski, several years ago I was riding jump seat on one of Eastern's planes. It wasn't too long after pilots had given back a substantial amount, and as I recall, Mr. Borman had then used that money to settle with the machinists. I was riding jump seat not too long after this happened, and I just got an earful about how they felt about that give back plus settling the IAM contract.

Is there still, do you think from your perspective, any kind of a friction between the ALPA unit down there and the IAM on your property?

Mr. **Kolski**. I don't know if there is friction between the union officials as such. I do know that a very wide and large segment of the Eastern Airlines' employees, the unionized pilots, the flight attendants, as well as the union-free employees, bear some sincere and honest resentment to the fact that Eastern made that settlement with the IAM back in 1983. They all felt, and they still feel today, most of the employees I come in contact with, that they made an effort to make Eastern healthy again. And the IAM did not make the same effort and in fact continued along with the same type of contracts that were negotiated back in the 1960's and 1970's. And that severely hurt Eastern Airlines. So there is a resentment present amongst the nonmechanical work force, nonmechanical related work force.

Mr. **Mineta**. Is there anything on the part of the company to keep that pot boiling or stirred up all the time?

Mr. **Kolski**. There is no benefit to the company to have a boiling pot.

Mr. **Mineta**. There may not be a benefit to the company, but I'm wondering whether or not that isn't still happening in terms of keeping the employee groups sort of pitted against each other and creating this kind of, you might say, anti-labor effort on the Eastern property.

Mr. **Kolski**. Sir, I do not believe there is any validity to that supposition at Eastern Airlines on behalf of anyone present at Eastern Airlines. Eastern has exchanged opening proposals with the IAM union. Negotiations are underway. We hope that labor dispute is confined to the bargaining room where it should be confined, and that a peaceful and proper settlement that both the IAM and the company can be satisfied with is reached very quickly. That is the desire.

I think Eastern knows, I know, and I think it's evident that you can produce a better airline and a better airline product, and you can have more and better satisfied consumers if you have your employees working with you and working together as opposed to against one another.

Mr. MINETA. Well, the reason I guess I ask, is on page 4 of your testimony, you say that the FAA investigation 2 years ago resulted in a substantial number of alleged discrepancies. Then you say Eastern came to grips with these alleged discrepancies and made dramatic improvements in its safety and compliance programs.

And frankly I'm troubled by the use of the word, "alleged." There were actual discrepancies. And didn't that FAA investigation reveal the most serious problems ever uncovered at a major airline? So why do you say alleged? You don't make dramatic improvements to alleged discrepancies. You make them to real discrepancies. To me this sort of permeates through your testimony about this sort of keeping, this sort of unrest, subtle as it may be, you just sort of keep it brewing. You asked the chairman of this subcommittee, my chairman, you say to him, "Mr. Chairman, you don't understand." Well, frankly, from my perspective who are you to question whether he understands it or not? And again here in the phrase, alleged discrepancy, on page 4, you convey to me an attitude and I find that attitude throughout the kinds of problems that Eastern is facing, and that still permeate Continental. That's why I was asking about whether or not there was something going on at Texas Air that tells all of you to sort of keep it boiled up.

Mr. KOLSKI. Mr. Mineta, the 1985/1986 NATI inspection of Eastern Airlines occurred before Texas Air had any idea that it would wind up to be——

Mr. MINETA. Absolutely. And when——

Mr. KOLSKI. The owner of Eastern Air Lines.

Mr. MINETA. And when FAA did that I said to Engen, I said, "You're going to go with $9.8 million, go with it, don't back off. Don't negotiate it." And so when Frank Borman came in and said to me, "Hey look it, that's a paper chase. Throw it out. And besides you ought to be fining us on the basis of violations per day, not violations per flight." I said, "Frank, when those 727s took off, those passengers on board were not at risk on a per-day basis, they were at risk on a per-flight basis." And as far as I'm concerned the FAA is absolutely correct in doing what they are, and I'm backing them 100 percent. If you don't want to settle with the FAA on this, then I'm going to recommend that they take it to court for the full amount of $1,000 per fine for 78,000 violations for $78 million, not a $9.8 million fine. And what I'm saying is that that is the kind of an attitude that I feel sort of permeates Eastern Air Lines.

So I can understand why you continue to have problems. It's not a question of marketing, it's not a question of service. It's a question where it feels like management at Eastern is just continuing to boil or to stir that pot.

Mr. KOLSKI. Mr. Mineta, one of the first things Texas Air did——

Mr. MINETA. And I want to be——

Mr. KOLSKI. After it acquired Eastern Air Lines was to pay that money. No questions asked.

Mr. MINETA. You haven't paid it yet.

Mr. **Kolski**. One million of the $9.5 was paid and the other $8.5——

Mr. **Mineta**. How long are you taking to pay the balance of it?

Mr. **Kolski**. The FAA agreed to receive it within a year.

Mr. **Mineta**. And I think it's a lousy agreement. They shouldn't have let you off that easily, frankly.

Mr. **Kolski**. That was one of the first actions of Texas Air, to state we're going to pay that fine and get it behind us. I use the word alleged, because many of those violations, if indeed went to court, the FAA wouldn't have collected on. Many of—the great preponderance of those alleged violations were record keeping deficiencies, which Eastern went out and proved that the work had been done and the records were there. The FAA made a finding of a record keeping deficiency. This gentleman up here earlier today said, if it was a matter of something as similar to somebody taking an item out of the airplane and you flew the airplane he doubts that the FAA would fine you. The FAA fined Eastern $9.5 million for many of the same violations.

Mr. **Mineta**. The violation is $1,000 whether you were using a non-certified FAA part in the nose landing gear or having a leaking toilet. And to me $1,000 per violation doesn't meet the standard, as far as I'm concerned. That's why in our new bill we raised the fine on certain things. And got away from the $1,000 per violation. On economic cancellation, we go up to $10,000 as I recall. On other violations we go up to $5,000 as Mr. Molinari's amendment was one of those that I accepted to increase the fine, because $1,000 per violation, whether it be a non-certified FAA part or a leaking toilet doesn't make any sense to me. So now we've got a hopefully a gradation. In fact I'd like to go revisit that and make that fine a little more scaled to the offense.

But I frequently—I fly Eastern—I don't frankly like to, but I fly it. But I want you to disprove to me that somehow there isn't something going on at Eastern that doesn't keep stirring that pot up.

Thank you very much, Mr. Chairman.

Mr. **Oberstar**. I think we have about concluded the questions. I do want to follow up on one point that Mr. Mineta raised, Mr. Rendleman.

Evidence entered yesterday in testimony and inquiries from staff, of course in preparing over the past several months for this hearing, indicate that we still see at Northwest, two airlines. A separation of mechanics who operated, in the past worked on Republic aircraft, and those that worked on Northwest aircraft. There are a number of reasons for that differentiation. But when are you going to have an integrated system that operates as a single unified airline that will avoid, or at least reduce to the barest minimum the discrepancies and the problems that have plagued this merger? Which merger I supported, by the way.

Mr. **Rendleman**. I'm sorry?

Mr. **Oberstar**. I said, which merger I supported.

Mr. **Rendleman**. Oh.

In answer to your question, in October 1986, Northwest management and the FAA met to decide how long it was really going to take us to put these two gigantic units together. And we agreed on a 18-month time frame at which time the former Republic operating specification would no longer exist and there would only be one spec and that would be Northwest.

We in maintenance and engineering, as well as flight operations, decided that we would not just take one operating specification and all its rules and procedures, or the other and adapt the fleet into that—the opposite fleet into that one. But we would take the best of both. And that was a commitment to a overall computerized maintenance system, the SCEPTRE system that I mentioned in my testimony. We then put together a committee to study what this enormous undertaking really meant, as well as several subcommittees on looking at manuals, and references, and policies and procedures, and I'm talking everything from general maintenance manuals through administrative manuals, through fueling manuals a combined MEL on each fleet type, because each carrier had had their own MEL as you have heard before, et cetera. The computer programming alone was in excess of 5 man years. And we have finished that initial programming and are now loading text, are now loading the data, if you will, of the old Northwest system into the new computerized maintenance program. We are on target and expect a combined operating specification in February, or at least by March of 1988.

But more than that we've already begun a very traumatic process of integration. We have already combined things like line checks, which is our daily maintenance check, so that regardless of where the airplane came from, now the paperwork used to perform that check is identical. It differs per airplane, but it's the same for a 727 as it is for a DC-9.

In placing a work force of over 2,500 mechanics on a computerized maintenance program, we have met some degree of resistance. And this has caused us not only to increase our training staff, but to increase our computerized support staff so that we continue to reinforce and enhance the importance and the necessity of having this automated system. Some people accept change very readily. Some people do not. What I'm leading up to is that our time-table has been extended for this period of time, primarily because it is change. It's a different way of doing business. In retrospect, we could have said, let's just use the Northwest program, or let's just use the Republic program. But I think that the program we're putting together is in fact going to be a much better program than either of the ones before. In fact, when we analyze two different ways to do things, we sometimes come up with a third way, a better way than either of the previous carriers had. And that is being adapted into the program as we go through.

When the merger occurred, each carrier had 757's. We have since released the former Republic 757's and now only have one aircraft type. But each carrier had different types of 727's and that's the one program that is still operating under different paperwork. The new maintenance program for 727's is complete. It is being loaded in the computer, and we expect to do the first check on the new program by the first of the year. As I said, this will be step one of the last steps before the operating specification is issued.

Mr. **Oberstar**. Thank you.

We will follow the further development of those steps as you describe them, with great interest. I think it's of great importance.

I want to thank all the witnesses for their presentations today. It has been a long and exacting day for all of you and for all of us. Because together we continue to evaluate and monitor the progress of maintenance and its applications to the highest standards of safety.

Mr. Kolski, let me assure you, harking back to your statement earlier in the day and your questioning, of my understanding. I understand the MEL's. I don't undertake a hearing or an activity of this subcommittee without being well prepared. I may not know everything, but one of the purposes of this hearing is to make sure that you understand them and that your airline operated in accordance with them.

Mr. Kolski. If I offended to you, sir, I apologize for anything I may have said to you here today. I do believe—I just want to get the record straight and I want you to understand it.

Mr. Oberstar. I understand it. I appreciate any help that Eastern Air Lines—I can receive from any source with respect to compliance with FAR's.

Our purpose again, is not to be confrontational, to be corrective. And we do so in a cooperative spirit.

Thank you. Thank you, gentlemen.

[The prepared statements of Mr. Kruse, and Mr. Kolski follows:]

Statement of David L. Kruse
Vice President Maintenance and Engineering
American Airlines, Inc.

Before the
Oversight and Investigations Subcommittee of the
Committee on Public Works and Transportation
U.S. House of Representatives

October 21, 1987

My name is David L. Kruse, and I am Vice President of Maintenance and Engineering at American Airlines. I have come at the request of the Subcommittee to provide information regarding American's Maintenance Program, our maintenance activities and improvements since the FAA audit of July, 1985, and to provide additional information as the Subcommittee may deem appropriate. I am hopeful that the information which follows will be helpful in achieving our common goal - Delivering safe efficient commercial air transportation.

1. Routine Preventative Maintenance Program Overview

American's maintenance programs are designed for each individual fleet type which includes McDonnell Douglas' DC-10 and MD80, Boeing's 727, 737, 747 and 767 and British Aerospace Bae-146 aircraft. The following outline describes basic maintenance intervals for ascending levels of maintenance. The exact maintenance interval for each fleet type varies slightly based on experience with that aircraft and its systems.

Periodic Service (PS) - Accomplished each time an aircraft overnights at a maintenance station where AA mechanics are assigned, but not to exceed 48 hours. If an aircraft overnights at a station where AA mechanics are not assigned full time, the aircraft will receive a PS check at a maintenance station prior to departing for termination at a non-maintenance station. If a maintenance need arises at a station where AA mechanics are not assigned, qualified contractors and other airlines perform the needed service under American's direction. The PS check is considered a general condition check and 3,000 are performed each month.

"A" Check - Each aircraft is scheduled approximately each week for an "A" check. The letter "A" only indicates the maintenance performed is on an overnight aircraft. Specific jobs are assigned thru job cards and are signed by an A&P (Airframe & Powerplant) licensed mechanic. We currently spend approximately 20 manhours on narrow body aircraft and 30 manhours on wide body aircraft at each "A" check. The check is a general inspection of the complete aircraft plus specific systems functional checks. We currently schedule and accomplish 1900 per month.

"B" Check - The "B" check is accomplished approximately every 45 calendar days. This check is significantly larger than the "PS" and "A" check. The aircraft is inspected and in-depth functional inspection performed. We presently expend approximately 200 manhours on the wide body and 100 manhours on our narrow body aircraft at each "B" check visit. We are currently scheduling 200 "B" checks per month.

"C" Check - The "C" check is the highest level of maintenance performed by American Airlines. Manhours expended on a "C" check will run up to 17,000 manhours with the aircraft being out-of-service up to four weeks. In addition, $120,000 worth of material will be used on each narrow body aircraft and $220,000 worth of material on wide body aircraft.

This major maintenance visit is the backbone of the maintenance program. Each aircraft is scheduled for "C" checks between 12 and 24 months. All "C" checks are accomplished at the Maintenance and Engineering Center, Tulsa, Oklahoma, where total aircraft parts rework and replacement parts are available. We currently perform 25 "C" checks per month.

2. Maintenance & Engineering Improvements Since FAA Audit in July 1985

The audit of 1985 drew close scrutiny and self examination by top management at American. It resulted in an absolute corporate commitment not to preoccupy itself with defending current maintenance standards and practices but rather to focus all resources on responding positively and decisively to all perceived shortcoming and criticisms. In short, to make American's fleet unquestionably the best maintained aircraft in the business. And through participative and innovative management to deliver the most well maintained aircraft at competitive costs. Quality and safety has top priority in all maintenance activities at American. The following is an overview of improvements since 1985.

Open Items on Aircraft - An open item is defined as any unsatisfactory condition or discrepancy in the aircraft, its systems or furnishings. They range from dirty carpets to malfunctioning or inoperative systems. In 1985, on each aircraft, American was averaging 5.5 open items requiring action. As of the second quarter 1987, our average open item count is 1.88 items per aircraft. All counts are calculated on a seven day moving average. As noted in the chart, this improvement was accomplished while our fleet size grew simultaneously from 283 to over 400 aircraft. (Chart #1)

Repeat Pireps (Pilot Reports) - Pilot/crew write-ups on each aircraft are documented and reviewed daily. In 1985, an average of 120 items (Aircraft Discrepancies) reoccurred within 30 days after Maintenance attempted correction. This is known as our repeat aircraft count and has been steadily reduced to 20. This count is a direct indication of maintenance troubleshooting effectiveness. (Chart #2)

Training

In 1985, we provided 90,000 manhours of on the job training and 160,000 manhours of classroom training for our mechanics. In 1987, these will be 390,000 and 220,000, respectively. (Chart #3)

Material Costs

In 1985, $134 million was spent for material for the total fleet in support of engines, airframes, and components. In 1987, materials for engines, airframes and components will run approximately $225 million. For 1988, our expenditure is forecasted at $269 million. (Chart #4)

Spare Material Inventory

In support of the 400 operating aircraft, spare components, and materials are required systemwide to ensure dependability and reliability. In 1985, American's spare inventory level was $400 million. In 1987, the level will reach $517 million and $651 million in 1988. (Chart #5)

Employee Relations

In 1983, American embarked on a daring new approach to its relationship with organized employee groups starting with the Transport Workers Union representing some 18,000 mechanics and ground service workers. In exchange for job security for existing employees, profit sharing, and competitive starting rates for future employees, management committed to grow the airline; to move toward a more participative management style; and to increase job satisfaction through improved quality of work life for all employees.

Over the past two years, American has continued its excellent cooperative relationship between employee groups. A formal Quality of Work Life program has made significant progress in the past eighteen months in Maintenance & Engineering with the Union leadership, and the employees becoming more active and supportive of participative management of the Company.

The Company, early this summer, implemented a totally new nonpunitive disciplinary program called Peak Performance Through Commitment. Our employee groups have endorsed this change and the initial training included crew chiefs and shop stewards in the same training sessions with supervision.

Formal grievance activity has been drastically reduced as a result of local management and union officers/stewards discussing issues and resolving them in a cooperative environment.

Maintenance Program Improvements

Since last 1985, significant changes have been implemented throughout the Maintenance and Engineering organization. Highlights of these changes are:

- Implemented a Periodic Service (PS) check for all aircraft. Specifies maximum interval for scheduled maintenance - 2 days.

- Realigned the 727 maintenance program to increase maintenance opportunities.

- Included a separate passenger cabin refurbishment program into the routine scheduled maintenance bill of work. This program concentrates on the total interior of each aircraft.

- Instituted a predeparture check on all 767 aircraft that are scheduled to fly overwater (EROPS check - Extended Range Twin Engine Operations).

- Instituted a "mid check", which was at the mid point of the scheduled DC10 maintenance interval to improve the DC10's to a 97.5% dispatch reliability level.

- Established Chicago and LaGuardia as 727 "B" check stations.

- Established Chicago as a MD80 "B" check station.

- Increased mechanic/inspector headcount from 4,755 in 1985, to 6,355 in 1987. Budgeted headcount in 1988 is planned at 7,374. (Chart #6)

- Increased staffing of a Maintenance Standards Group to refine and maintain manpower standards appropriate to fleet age and condition.

- Personnel were added to MEL Control, Aircraft Scheduling, Supply and Workload Planning of the centralized Maintenance Operations Control nerve center to balance daily station workload and assure availability of parts.

- Revised aircraft scheduling and routing parameters to ensure that aircraft overnight at desired stations with appropriate resources and with increased frequency. We also increased the number of maintenance stations from 18 to 28.

- Contract work was discontinued to place total AA expertise and work force on American's growing fleet.

Mechanical Dependability Performance

The most difficult problem created by an airline's decision to dramatically upgrade the mechanical quality of its fleets is the corresponding increase in delays and cancellations created as employees are encouraged by the Company to reduce the number of open items. It must be a clear message from management that "if it isn't right, don't fly it". The quality versus dependability issue must be approached with a longer term view of planning, preventative maintenance, and anticipating mechanical breakdowns rather than simply carrying increasing numbers of discrepancies and nonessential systems inoperative. Charts #7, #8, and #9, graphically depict this phenomenon at American.

Facilities Expansion - Base (Tulsa) and Field

Recognizing that our rapid fleet growth will demand additional maintenance facilities, American has embarked on an extensive facilities expansion program. (Chart #10 & #11)

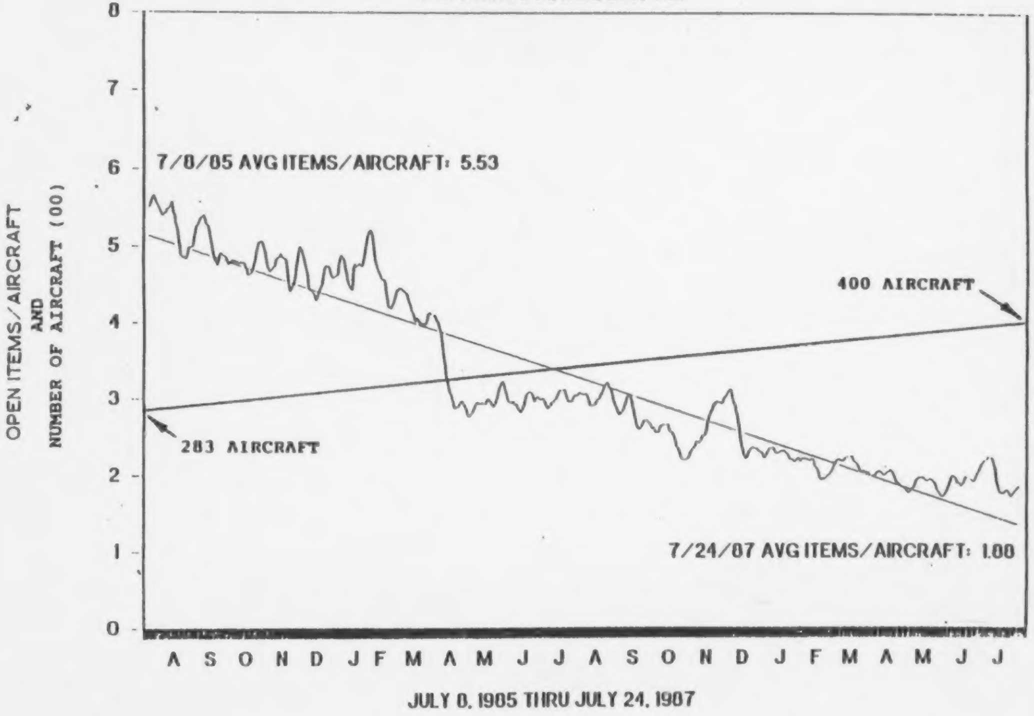
Costs

A well defined cost plan was developed for maintenance, which allowed American's total maintenance expense to rise from a low of .62 cents per available seat mile in 1984, to a high of .76 cents per ASM in 1986, in order to move quickly toward our goal of superior maintenance. (Chart #12)

CHART #1

7 DAY MOVING AVERAGE OPEN ITEM COUNTS

ALL ITEMS (PIR, MEL, E58, CID)



AA Reliability Programs/Q.A.
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CHART #2

AMERICAN AIRLINES

REPEAT PIREPS

LOW REPEATS = HIGH QUALITY MAINTENANCE

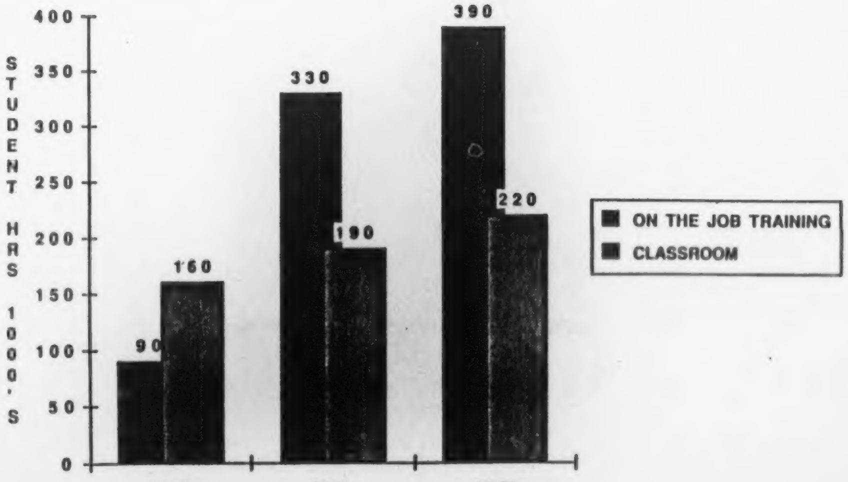
- PIREPS = PILOT WRITEUP
- REPEAT = ANY WRITEUP ON THE SAME ITEM TWICE IN 30 DAYS
- 1985 = 120 REPEATS DAILY
- 1987 = 20 - 35 REPEATS DAILY

August 4, 1987

CHART #3

AMERICAN AIRLINES

MAINTENANCE & ENGINEERING
MECHANIC TRAINING



August 4, 1987

CHART #4

AMERICAN AIRLINES

DIRECT MATERIALS COSTS (ALL FLEETS)

- INCLUDES: ENGINES, AIRFRAMES, & COMPONENTS

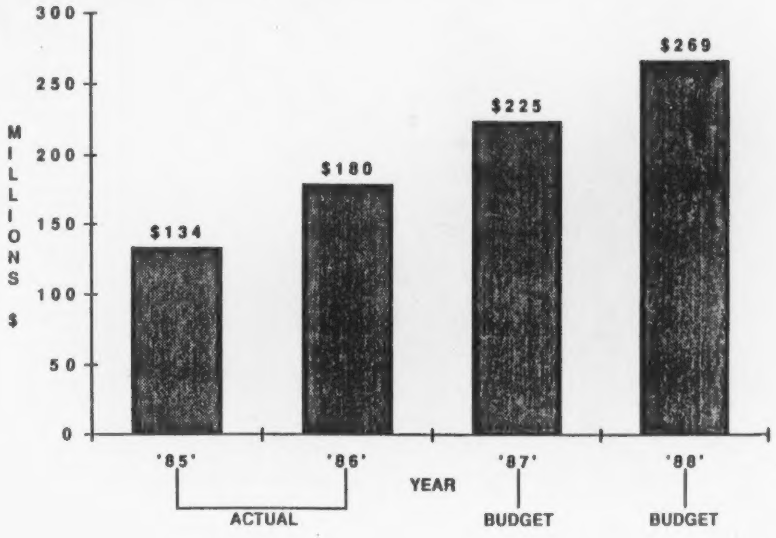


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CHART #5

AMERICAN AIRLINES

Spares Inventory

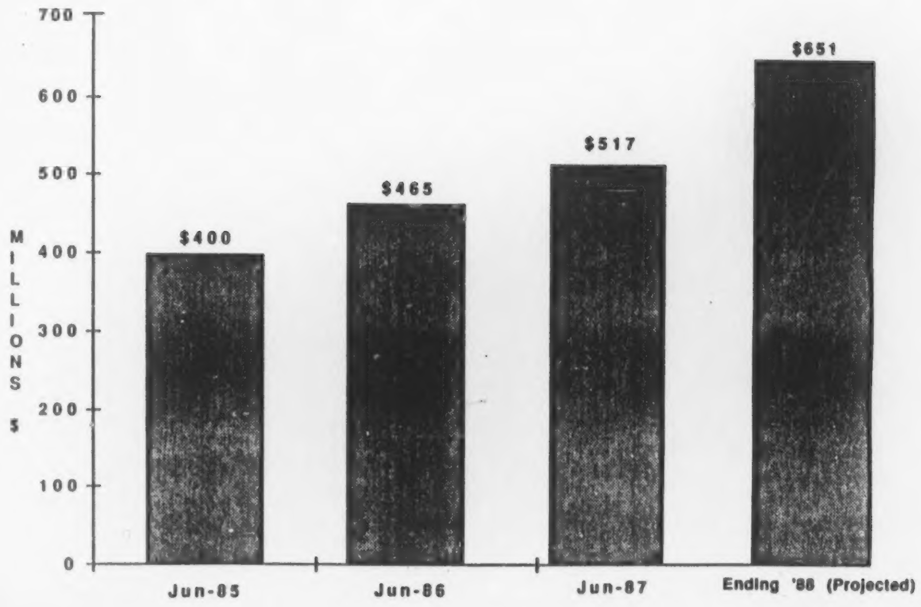

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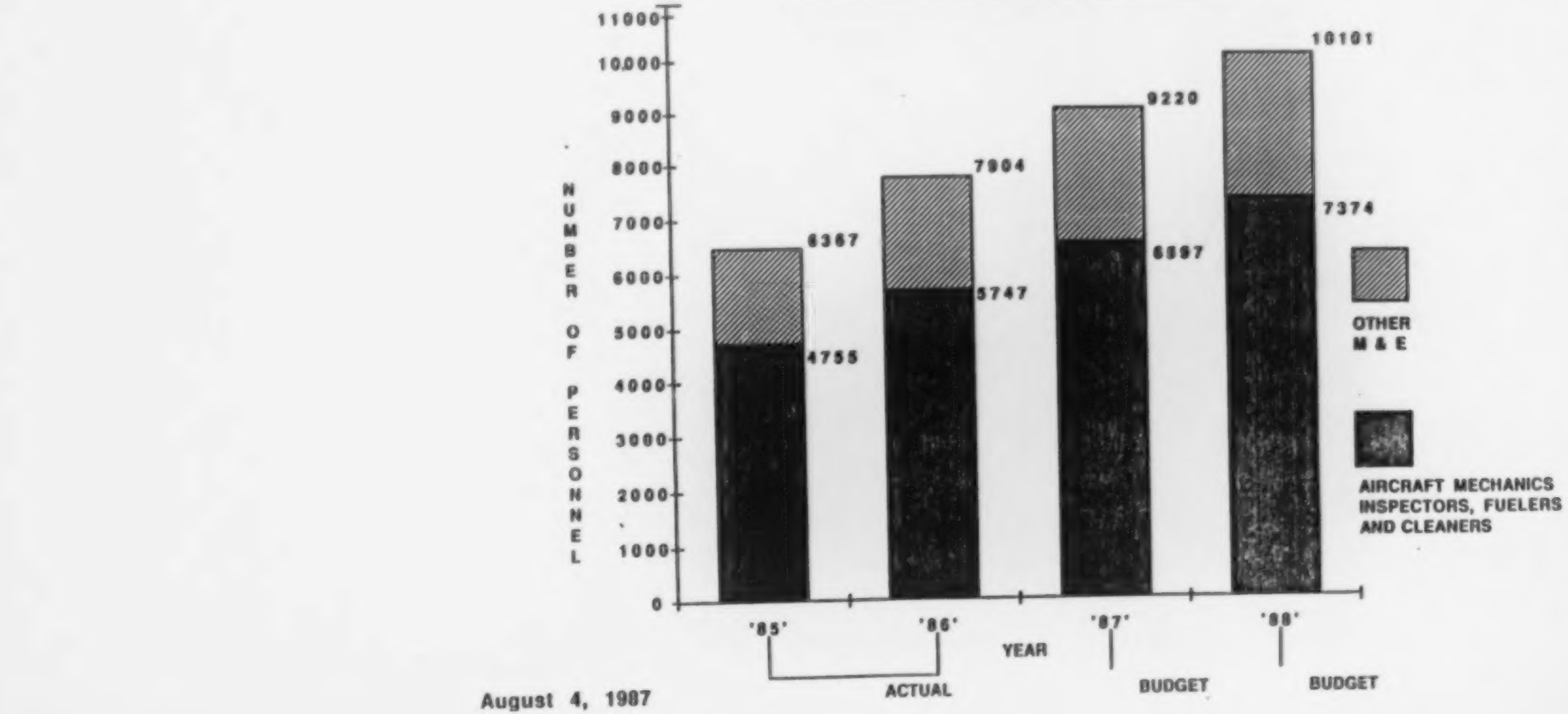
CHART #6

AMERICAN AIRLINES

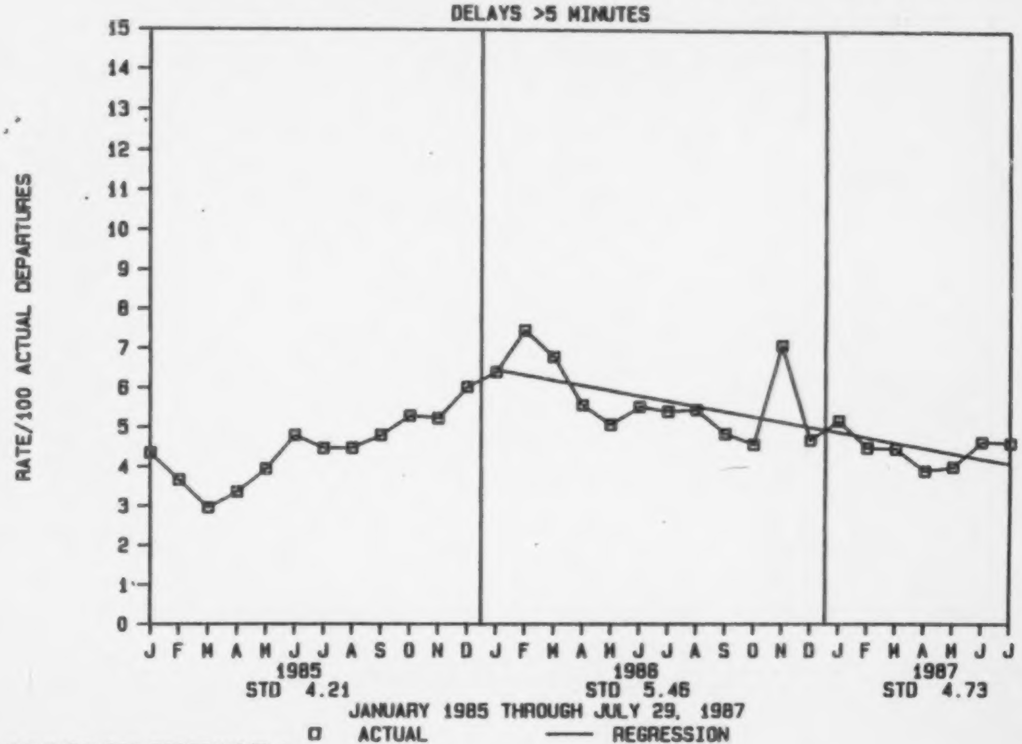
AIRCRAFT PERSONNEL GROWTH



August 4, 1987

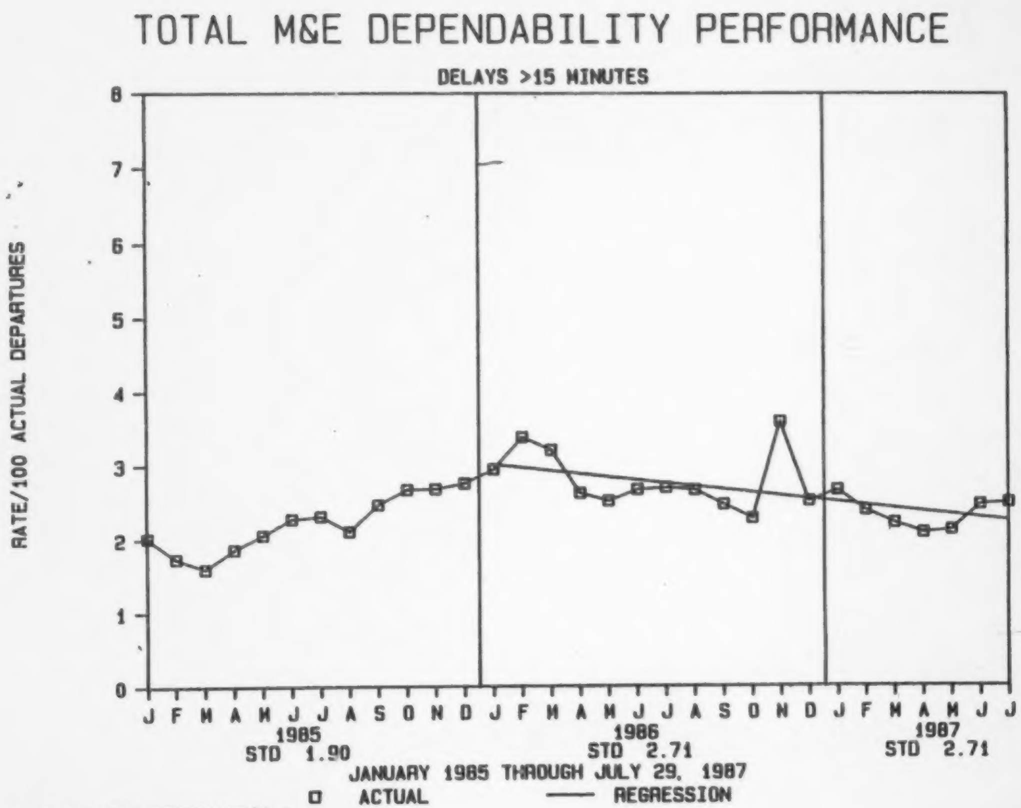
CHART #7

TOTAL M&E DEPENDABILITY PERFORMANCE



AA RELIABILITY PROGRAMS/Q.A.
August 4, 1987

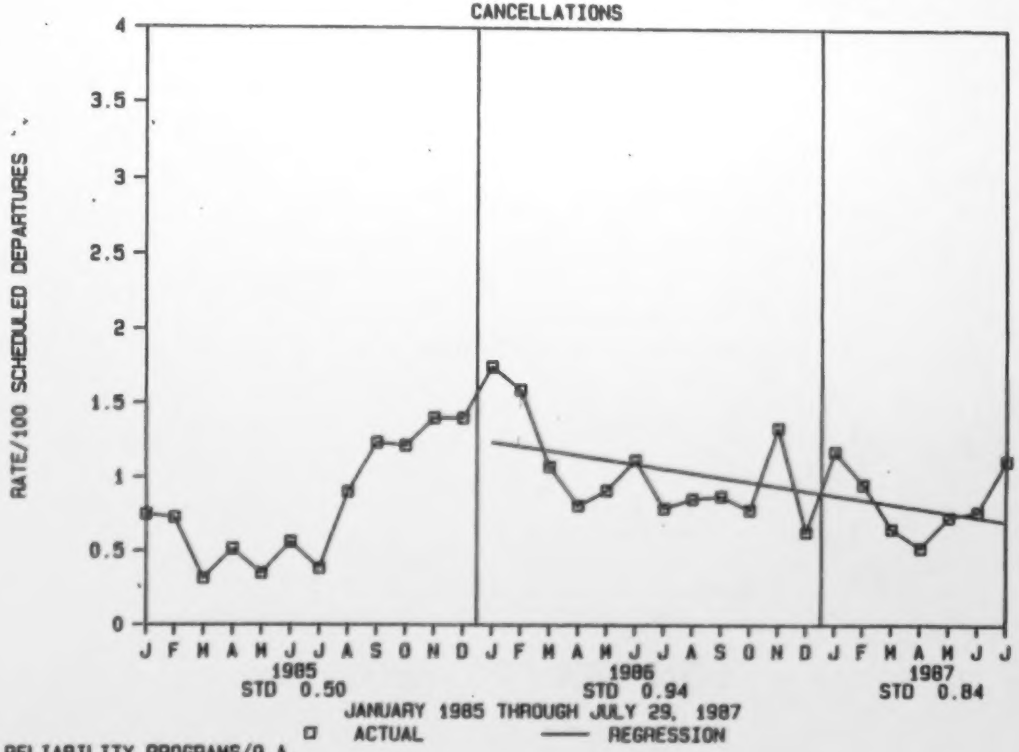
CHART #8



AA RELIABILITY PROGRAMS/Q.A.
August 4, 1987

CHART #9

TOTAL M&E DEPENDABILITY PERFORMANCE



AA RELIABILITY PROGRAMS/Q.A.
August 4, 1987

CHART #10

AMERICAN AIRLINES

MAINTENANCE & ENGINEERING CENTER EXPANSION/RENOVATION

START	COMPLETE
APR 1987	APR 1990

	MILLION
• FACILITIES CONSTRUCTION AND RENOVATION	
- SQ FT - 1.5 MILLION SQ. FT.	$161.9
- COST - $116.3 MILLION	
- PLATING SHOP - $9.6 MILLION	
- PREVIOUSLY APPROVED CAPITAL EXPENDITURES - $36.0 MILLION	
• NEW EQUIPMENT	
- TOOLING/FIXTURES - TEST CELLS AND NDT	
- COMPUTER EQUIPMENT	
- WAREHOUSE EQUIPMENT	
- COST - $24.2 MILLION	24.2
• RELOCATION OF EXISTING EQUIPMENT	
- SHOP EQUIPMENT RELOCATION	
- OFFICE EQUIPMENT RELOCATION	
- COST : $7.1 MILLION	7.1
• SPECIALIZED HOISTING EQUIPMENT	
- ENGINE HOISTS	
- PLATING SHOP HOISTS	
- COST - $6.8 MILLION	6.8
TOTAL:	$200.0

August 4, 1987

CHART #11

AMERICAN AIRLINES

FIELD FACILITY EXPANSION

- DFW
  - CONSTRUCTION OF TWO BAY HANGER.
  - SCHEDULED COMPLETION - 1ST QTR 89.
  - COST - $18.1 MILLION.
- JFK
  - MODIFICATION OF EXISTING FACILITIES
  - ADDITIONAL RAMP PAVING
  - NEW BLAST FENCE INSTALLATION.
  - SCHEDULED COMPLETION - 3RD QTR 88.
  - COST - $7.9 MILLION

August 4, 1987

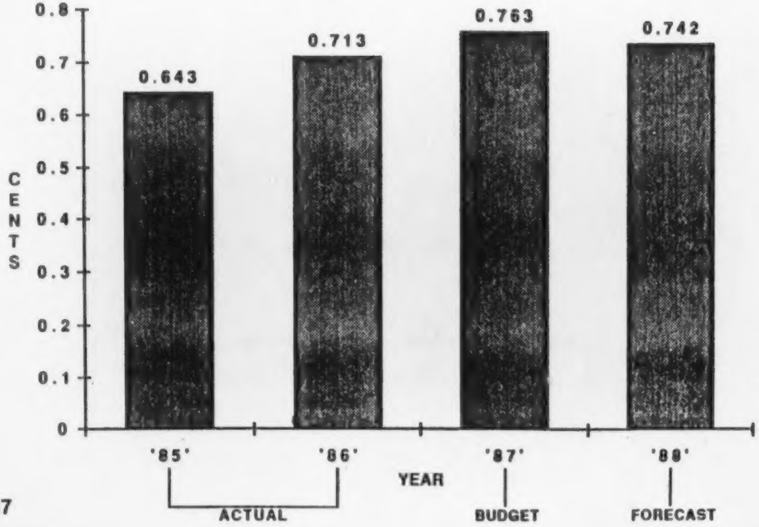
CHART #12

AMERICAN AIRLINES

MAINTENANCE & ENGINEERING COSTS PER ASM

(AVAILABLE SEAT MILE)

• Includes West Sector For 1987 & 1988



August 4, 1987

TESTIMONY OF STEPHEN J. KOLSKI, STAFF VICE PRESIDENT AND COUNSEL FOR REGULATORY COMPLIANCE, EASTERN AIR LINES, INC.

BEFORE THE HOUSE COMMITTEE ON PUBLIC WORKS
AND TRANSPORTATION
SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT
OCTOBER 21, 1987

INTRODUCTION

Mr. Chairman and Members of the Subcommittee, Eastern appreciates the opportunity to testify before you today on the subject of airline maintenance and safety. My name is Stephen J. Kolski and I am Eastern's Staff Vice President and Counsel for Regulatory Compliance. I have been with Eastern since January of 1987. Prior to that, I served for seven years as Vice President of Flight Operations and Vice President of Operations for New York Air. Between 1966 and 1980, I served in various positions for National Airlines, including Director of Labor Relations and Staff Vice President of Flight Operations. I am a lawyer and a licensed commercial pilot with an instrument rating and have over 20 years of industry experience on matters relating to safety and FAA regulatory compliance.

The false perception carefully nurtured by airline labor unions is that under deregulation airlines have been cutting back on safety. ALPA has been using safety scare tactics for years, alleging that the margin of air safety is narrowing, that the airlines keep cutting corners to increase profits and that, sooner or later, a tragedy will happen because of it. In his recent testimony before the House Committee on Government Operations, Eastern Captain Don McClure issued a blistering attack on Eastern Air Lines and the industry in general. He even cited the recent tragedy in Detroit as "the harbinger of things to come." I do not intend to dwell on that unfortunate occurrence, but it demonstrates the great lengths ALPA will go to get their point across, even citing accidents which have absolutely nothing to do with the issue at hand.

Mr. Chairman, the Congress did not deregulate safety in 1978 and we believe the record will show that in recent years Eastern has dramatically increased the resources devoted to maintenance, safety and regulatory compliance. Eastern commends the Subcommittee for its leadership in holding these hearings and offers the following to assist the Members in separating the myths from reality:

-- In 1987 Eastern will spend over half a billion dollars for Maintenance and Engineering (M&E), a 42% increase from 1985 levels;

-- Eastern's M&E expenditures per available seat mile far exceed the industry average. Between 1983 and 1987 Eastern's total maintenance per flying hour increased from $495.00 to $656.00 -- the industry's largest maintenance expense increase for that period;

-- M&E expenditures account for 12.1% of Eastern's total operating expenses thus far in 1987, compared to 8.1% in 1985;

-- With the exception of 1986, which required additional staff to cope with unusually high, but temporary workload requirements, Eastern's maintenance workforce is higher today than at any time in the last five years.[1] This has occurred in spite of the fact that the number of airplanes in Eastern's fleet has been reduced;

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[1] Adjusted to reflect the termination of Eastern's contract maintenance program for other carriers.

- -- The value of Eastern's Maintenance and Engineering inventory has steadily increased from $370 million in 1984 to $409 million in 1987; and
- -- Eastern anticipates that it will spend $189 million in materials and supplies for its Maintenance and Engineering Division compared to $94.5 million in 1985.

Mr. Chairman, these are the facts, plain and simple. In spite of what others would have you believe, Eastern has made a tremendous commitment to strengthen its overall maintenance capability and we are succeeding in spite of union opposition to many company initiatives and in spite of anti-safety union tactics.

Perhaps the best proof of Eastern's commitment to safety is its safety record. With its current fleet of 279 aircraft, Eastern operates approximately 1,500 daily departures to 132 cities and 26 countries. In 1986 alone, Eastern carried 42.5 million people. Since 1975, Eastern has operated 6.2 million flights, carrying 435.7 million passengers. Eastern experienced one fatal accident in South America during that period, and while that was one too many, Eastern's safety record ranks among the industry's best.

In spite of the media attention and public hysteria over allegedly deteriorating safety, the facts show that the airline industry as a whole has greatly improved safety since deregulation. Airline fatalities in the eight years before deregulation were

3,083. The total between 1979 and 1986 was 1,944, a drop of 37%. Fatalities per 100,000 miles flown dropped from 1.72 in 1978 to 0.92 in 1986. Mr. Chairman, the airlines make six million safe flights every year and yet this fact often gets ignored amid all the criticism. What also gets ignored is that economic deregulation has enabled millions of Americans to afford air transportation. This has actually improved safety because these passengers are, in many cases, using the airlines in lieu of their automobiles, a far more dangerous mode of transportation.

Eastern recognizes the problems of the past and the fact that an FAA-NATI investigation conducted almost two years ago resulted in a substantial number of alleged discrepancies. Eastern has come to grips with and addressed those issues and made dramatic improvements in its safety and compliance programs.

In my testimony, I will describe Eastern's extensive maintenance and engineering capabilities, its responsibilities as an air carrier operating under the Federal Aviation Regulations, and how Eastern exceeds those requirements. Next, I will discuss specific maintenance and operations initiatives which Eastern has implemented to increase safety. I will then explain Eastern's FAA-approved minimum equipment list (MEL) procedures, describe the ALPA slowdown (purposely disguised in the clothing of safety) and show how the ALPA tactics have adversely affected the company's performance. Finally, I will explain the philosophy behind the company's incentive compensation program and address issues relating to employee discipline.

EASTERN MEETS OR EXCEEDS FAA REQUIREMENTS

As a domestic and flag air carrier operating under Part 121 of the Federal Aviation Regulations (FARs), Eastern must comply with a variety of FAA rules governing maintenance, preventive maintenance and alterations. It must have competent personnel and adequate facilities and equipment, including spare parts, supplies and materials. It must have an organization adequate to perform the work.

Maintenance must be performed in accordance with the company's FAA-approved maintenance program, company and manufacturers' manuals, and the FARs. A separate inspection workforce is required and no person may perform an inspection if that person accomplished any of the work being inspected. A Continuing Analysis and Surveillance Program (CASP) analyzes Eastern's own maintenance procedures, identifying any deficiencies and the corrective action required. As part of its required Reliability Program, Eastern's engineers set performance parameters for all aircraft in the fleet. Continuous monitoring occurs to ensure that those parameters are not exceeded; if they are, the appropriate remedy is identified and engineering orders are issued to the mechanics in the field to take corrective action.

These regulations and others have helped create an unparalleled system of safe and reliable air transportation in the United States. While not to diminish the important role of the FAA in achieving this exemplary safety record, the airlines deserve equal commendation for the role they have played as well. Eastern has many maintenance-related programs which go far beyond the requirements of the FARs and we will continue to reassess and improve our programs.

One example of Eastern's commitment to program enhancement is its automated repeater program. Although 99.3% of all pilot reports of actual or suspected mechanical irregularities are corrected promptly by Eastern's mechanics, Eastern has developed an automated program to address the 0.7% which do not respond to initial troubleshooting and corrective action. The program is designed to identify and repair those discrepancies which recur three times within a ten day period. Data collection was originally performed manually through an examination of logbook entries by pilots and mechanics. Although the manual system still functions in a back-up role, Eastern recently implemented a sophisticated computer program which identifies repeat items based on an analysis of four digit ATA codes which are assigned to all repairs.

When a repeat item is identified, the downline maintenance station is automatically alerted so mechanics can take appropriate follow-up action as soon as possible. Eastern's repeater program has evolved to the point where 94% of the repeat items are promptly repaired without re-entry into the program.

Another example of how Eastern exceeds FAA requirements is in its implementation of FAA Airworthiness Directives (ADs). Earlier this year, Eastern established an AD Review Board to act as the central decision making authority on the implementation of ADs. Eastern requires that the accomplishment of all ADs requiring modifications to airplanes must be signed off by an inspector and certified by a manager. Eastern has fully automated its AD Records System which includes 22 years of AD history and over 550 separate ADs. None of these measures are required by the regulations; yet Eastern believed they were necessary and did not hesitate to spend the money required to implement them.

EASTERN'S MAINTENANCE AND ENGINEERING CAPABILITIES

Eastern's Maintenance and Engineering Staff -- Eastern employs 6,335 highly-experienced and dedicated people in its maintenance and engineering workforce. Eastern's 4,556 mechanics average 13 years of experience, maintenance supervisors average 19 years of experience, and maintenance foremen average 16 years of experience.

Eastern employs approximately 150 engineers and associated technical analysts devoted to the development and implementation of programs to improve the safety, reliability, passenger comfort, performance and economics of Eastern's operations. The engineering staff, which includes five FAA Designated Engineering Representatives (DERs), averages over 10 years of industry experience per employee.

Eastern's Maintenance Facilities and Inventory -- ALPA has claimed that Eastern has reduced the number of maintenance facilities and that Eastern's inventory of spare parts is inadequate. There is no basis for this statement. Although the slowdown campaign has adversely affected Eastern's spare parts inventory of certain items, the dollar value of that inventory had increased steadily from $370 million in February of 1984 to $408 million in February of 1987, before declining to $395 million in September of 1987 as a direct result of the slowdown. In fact, in December of 1986, Eastern had the second highest ratio of inventory dollars to flight equipment of any reporting major U.S. carrier, according to the Air Transport Association. (Appendix 23).

ALPA's claim that Eastern has reduced the number of locations where maintenance can be performed is equally unsupportable. In 1985, Eastern had 31 facilities at which it employed its own mechanics; in 1986 that number increased to 39 where it remains today. (Appendix 24).

Aircraft Overhaul -- At its maintenance bases in Miami and Atlanta, Eastern performs virtually all aspects of annual "C" checks and major structural "D" checks. Facilities available for this effort include three wide body aircraft hangar bays and several narrow body bays in Miami, plus one wide body hangar bay and two narrow body bays in Atlanta.

Eastern's overhaul capabilities include extensive mechanical, sheet metal, structural, and wiring checkout and repair. Additional capability includes paint and polish, aircraft jacking and landing gear retraction testing, aircraft weighing, and automated systems testing.

Component and Accessories Shops -- Eastern overhauls and repairs the vast majority of its aircraft and engine components. Among Eastern's component shops are those devoted to avionics, electrical components, hydraulics, pneumatics, control surfaces, fabrics, composites and seats. Shop equipment includes many automatic test units for avionics components, composite lay-up and autoclave bonding, extensive hydraulic test stands and environmental test cells.

Engine Overhaul -- Eastern has complete repair, restoration and testing capability at its Miami Base Engine Service Center. The Engine Service Center is among the most modern and fully-equipped turbine engine facilities in the world. It includes a complete machine shop with computerized machining and inspection equipment, a weld shop equipped for virtually all welding processes, a fully-equipped heat treating facility, and extensive parts cleaning capability. Engine disassembly and assembly is supported by extensive gantry facilities. A large and modern fuel metering facility produces and tests fuel controls, fuel pumps and related components.

Non-Destructive Testing -- Eastern employs the most advanced non-destructive testing techniques in the industry at its major maintenance bases in Miami, Atlanta and Boston. X-ray structural inspections, radioactive isotope inspection of engines, ultrasonic, eddy current and dye penetrant inspections are used on a daily basis to assure the integrity of Eastern's aircraft.

Engineering Laboratory -- Eastern's Engineering Laboratory provides comprehensive support in chemical, metallurgical and materials engineering. Services include the chemical analysis of fuel, lubricants, metals and non-metallics; instrumental analysis including spectrophotometry and chromatography; physical and mechanical testing for structural analysis, design modifications, and vendor parts qualification and control. This laboratory frequently performs failure analyses for the National Transportation Safety Board (NTSB) and several outside customers.

MAINTENANCE AND ENGINEERING INITIATIVES

Increased Emphasis on Training -- Since 1985, Eastern has more than doubled the number of man-hours devoted to training its mechanics. Eastern expects to devote almost 320,000 man-hours to training in 1987 compared to approximately 140,000 in 1985. This year the average Eastern mechanic will spend 30 hours more per year in training than in 1985. Mechanics are tested on all subjects covered in training and classroom attendance is mandatory.

The instruction encompasses all aspects of aircraft maintenance from general familiarization courses to those specializing in a single subject, such as engine boroscope inspection. Because of the need to ensure accurate records, mechanics are instructed on how to properly fill out aircraft logbooks and other required records after performing maintenance. Many of the courses are attended by FAA inspectors.

In addition, Eastern has undertaken a variety of programs designed to improve the performance of its maintenance workforce.

Airworthiness Directive Reconfirmation -- Following the 1985-1986 FAA inspection of Eastern, the company conducted an unprecedented internal inspection of its entire fleet, reconfirming compliance with 239 separate FAA Airworthiness Directives (AD) issued during the past 20 years.

This inspection encompassed nearly 300,000 separate units, consumed 140,000 man hours and cost $15 million. Eastern believes it was the most comprehensive inspection ever conducted by an airline. Eastern also separately inspected all parts affected by an AD, both on the aircraft and in inventory. As a result of these inspections, Eastern made numerous recommendations to the FAA and industry which will lead to a higher level of safety for all operators.

Organizational Improvements -- Eastern has created a new independent regulatory compliance group, known as Regulatory Liaison and Operational Review (RLOR). Headed by an attorney with over 20 years of experience in air carrier operations and staffed with former FAA air carrier inspectors, this group has rejected in the test cell, demonstrating that the quality of Eastern's engine repairs has substantially improved. This is further reflected in Eastern's in-flight engine shut down rate, which is lower thus far in 1987 than at any time in the last five years.

FLIGHT OPERATIONS INITIATIVES

System Control -- Eastern has implemented a variety of programs in its Flight Operations Division which underscores its commitment to safety and compliance. It has hired additional dispatchers and improved the quality of weather training they receive. Eastern spent $8 million to purchase ACARS (Aeronautical Communication and Report System) which, when fully implemented, will reduce clerical duties for dispatchers, reduce crew workload and provide direct access to weather data by flight crews. Eastern also leases a state-of-the-art Kavouras System, which provides pilots with real time weather radar forecasting and monitoring.

Pilot Training -- Eastern has been one of the industry leaders in pilot training and recently implemented a Cockpit Resource Management Training Program to improve flight crew coordination and communication within the cockpit. The program, which is being administered to Eastern's check airmen and which will be given to line pilots in 1988, puts crewmembers in "real life" mechanics positions were recently added to respond to the increase in parts turnover caused by the pilots' slowdown.

In the Engine Service Center, 56 additional positions were created since January of 1986. Eastern has also hired more technical supervisors to assist line maintenance and monitor engine build standards and testing criteria.

As part of its overall program to emphasize the importance of accurate recordkeeping, Eastern has hired additional record analysts in the Engine Service Center and in its Reliability Office, the latter to ensure that the information which forms the basis for Eastern's fleet reliability program is verified before being input into the system.

Engine Performance Improvements -- Eastern's increased financial commitment to maintenance has paid off. In June of this year, Eastern had over 30 spare engines on hand. This means that when engines are overhauled or repaired, Eastern can replace the engine without taking the airplane out of service for an extended period or leasing a replacement engine.

After overhaul, engines must meet specific performance parameters in the test cell prior to their being installed on the aircraft. Eastern has dramatically reduced the number of engines unlimited authority to inspect any part of the airline at any time for any purpose. It reports directly to Eastern's Chief Operating Officer.

Eastern has greatly expanded the Quality Assurance function by placing it under a newly-created Procedural Compliance Department. The department is headed by an attorney who holds an Airframe and Powerplant (A&P) certificate from the FAA and who has 20 years of experience in airline maintenance, quality control and regulatory compliance matters. The Department conducts extensive audits of maintenance facilities to ensure they are in full compliance with the FARs and Eastern's own procedures. To further strengthen its role, Eastern now requires Quality Assurance approval for any changes in its Maintenance and Engineering programs. A total of 38 positions have recently been added, which represents a staffing increase of 25 percent.

Eastern has not hesitated to add other personnel where justified to improve its maintenance effectiveness. In the Accessories Service Center (ASC), which is responsible for the overhaul, repair and alteration of all line replaceable units, Eastern has increased the number of man-hours of training by 16 percent over 1986 levels. Eastern has increased Manager and Technical Staffing in the ASC by 25 percent. The Shop Engineering Staff has been increased by 60 percent to improve tooling capabilities and 54 situations and emphasizes the need for and importance of shared responsibility within the cockpit for all flight operations tasks. Cockpit Resource Management training has received the endorsement of the FAA and the NTSB.

To enhance the coordination of training with every day line operations and to ensure operational standardization across the entire fleet, Eastern has combined its Flight Operations Training and Flight Standards under one director, with a fleet manager assigned for each aircraft type. Each fleet manager is responsible for both training and operational standards for his aircraft.

In addition to these improvements, Eastern has established the Flight Operations Development Program to develop enhancements to flight and ground training programs. New methods, including the use of computer-based training and interactive video, will be implemented subject to the FAA's approval.

Since the mid-1970s, Eastern has been training its crews in wind shear detection, avoidance and recovery. Through a series of computer models which are based on actual encounters with wind shear, Eastern's pilots receive hands-on simulator experience in dealing with this potentially lethal phenomenon. This training has been so valuable that Eastern credits it with having helped its pilots recover from at least two separate encounters with severe wind shear; one on approach and one during a go-around procedure.

Pilot Qualifications -- ALPA has stated that the newly hired pilots of today are inexperienced, compared with those hired in the past and that the FAA should increase the minimum qualifications for airline transport pilot certificates. Eastern does not agree. Eastern requires its newly hired pilots to have 1,200 hours of total flight experience; 500 hours must be in turbine-powered aircraft (either as pilot-in-command or first officer) and 200 hours must be as pilot-in-command in multi-engine aircraft or in a high performance single engine jet fighter. Eastern prefers that its new hires have completed their flight engineer's written test and that they have a college degree. Interestingly, Jack Bavis, an experienced Eastern pilot and Master Executive Counsel (MEC) Chairman of Eastern's ALPA unit, would not be hired by Eastern today since he had only accumulated 805 total flight hours at the time he was hired. Eastern does not believe Mr. Bavis is an unsafe pilot now, or that he was ever unsafe, but finds it ironic that ALPA would seek to increase minimum pilot requirements which many of their own prominent members would not have met when they were hired.

MINIMUM EQUIPMENT LIST (MEL) PROCEDURES AND POLICIES

FAA and company safety regulations require that equipment with a suspected malfunction be written-up, i.e., be reported. Each plane has a maintenance log book, in which items needing repair are to be noted. Before a plane can depart, any items written-up in the log book must be "cleared" by a licensed mechanic. An item may be cleared by its repair or replacement, or when authorized by the company's maintenance program, by scheduling its repair for a later time.

In the ideal world, all airplane systems would always function perfectly and every item that needed repair would be fixed before further flight. The FAA has long recognized that this standard is impossible to attain and airlines are permitted by the FAA to defer maintenance in accordance with an FAA-approved minimum equipment list (MEL) or the company's approved maintenance program.

The minimum equipment list is based on the philosophy that some redundant aircraft components or systems need not be operative to ensure a safe flight. In many cases, this is because the airlines have purchased equipment over and above that required by the regulations, such as a third altimeter (only two are required) or a third radio. In Eastern's case, this equipment was purchased to provide an extra margin of dispatch reliability so that the failure of a particular component would not take the airplane out of service.

There are essentially four kinds of minimum equipment items. The first type are those which must be fixed before further flight. For example, the MEL requires a functioning flight deck interphone system at all times. If it should fail, it must be repaired before dispatching the next flight.

The second kind are those where it is permissible to operate the airplane with a particular component inoperative, such as a generator or an autopilot system. The FAA does not specify when or where these items must be repaired, but allows the airline to delay the repair without disrupting its schedule or the travelling public. Some MELs of this type impose an operational restriction on the airline if the component is inoperative. An example would be an inoperative air conditioning pack which requires an altitude restriction, thereby causing additional fuel consumption.

A third type of MEL falls into a hybrid category depending on the conditions under which the flight will operate. For example, weather radar must be functional if a flight is going to be dispatched into an area with known or forecasted thunderstorms; otherwise the aircraft may be flown without it. Similarly, landing lights must be operative at night, but the repair can be deferred in accordance with the MEL if the airplane will only be flown during the day.

The fourth kind of MEL item is one which may be inoperative for a limited time only, such as a cockpit voice recorder, flight data recorder or ground proximity warning system. The FAA requires that, in these cases, the airplane "may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made." The vast majority of MEL items do not fall into this category; however, those that do are given the highest priority.

The interpretation of this phrase has been left largely to the various local FAA offices and as a result, the airlines have developed somewhat different procedures for addressing it. Although some flexibility in the MEL policy is necessary in order to account for differences in the carriers' operations, the FAA has correctly recognized that national guidance is necessary and we look forward to participating in developing that policy.

THE ALPA SLOWDOWN

During the first quarter of 1987, the leadership of ALPA implemented a major slowdown campaign against Eastern. Falsely characterized as a safety awareness program, it is in reality a classic work-to-the-rule job slowdown designed to preserve a pilot lifestyle developed during the by-gone era of regulation when price competition was virtually unknown and airlines were permitted to pass through increased labor costs to the travelling public. Designed, in ALPA's own words, "as an economic weapon against the company," the slowdown employs a variety of tactics to achieve desired union objectives, including increased reporting of alleged mechanical problems (Appendix 5), refusals to fly aircraft with no valid justification for such refusals, and picketing and leafletting. ALPA's own newsletter shows that its Executive Committee has initially budgeted $2.5 million to help fund the job actions against Eastern. (Appendix 1). It has been carefully planned, as demonstrated by ALPA's February 11, 1987 survey of Eastern pilots. The questionnaire asked Eastern pilots "would you support a job action at this time, such as a Fly by the book. . ." (Appendix 2).

ALPA communicates with Eastern pilots through a cartoon character, "Max Safety." Max Safety advises pilots to "Live by the Rules," "Fly by the Book" and "Take the Time to Be Sure." (Appendix 3). These messages are the time honored and well understood code phrases encouraging a work slowdown. The format of the slowdown follows a pattern established by ALPA as early as 1968, as is more fully described in an ALPA document entitled "The Slow-Down As A Negotiating Tool." (Appendix 4). The document described the slowdown as follows: "The slowdown, call it what you will -- 'withdrawal of enthusiasm,' 'lay aside enthusiasm,' 'safety program,' 'withdrawal of the spirit of cooperation'." Mr. Chairman, the airline industry has seen these tactics before and so have the courts. In Texas International Airlines, Inc. v. Air Line Pilots Association International, 518 F.Supp. 203 (S.D.Tex. 1981), the court had occasion to review ALPA's tactic of writing up mechanical defects in the name of safety. The court found that ALPA's actions were motivated, not by genuine safety concerns, but by a desire to disrupt carrier operations and pressure the airline to agree to ALPA's bargaining proposals.

ALPA has distributed 250,000 postcards to Eastern's pilots with instructions to write up alleged maintenance discrepancies on the cards and forward them to the FAA, DOT, NTSB and Members of Congress. The cards are specifically designed to make it impossible to determine whether a particular write-up is valid. In fact, less than 10% even mention the two essential elements needed to conduct an investigation -- the date of the occurrence and the flight number. Although Eastern and the FAA are devoting substantial resources to identify those few which can be investigated, the postcard campaign has diverted resources away from more legitimate safety-related activities.

Through mass mailings similar to one I have attached to my testimony and pre-recorded weekly phone messages, ALPA has encouraged pilots to write up items in the logbook (Appendix 5), stressing those which are low in inventory so that the potential for schedule disruptions is greatest. (Appendix 6).

ALPA explains its tactic of the weekly strategy as follows (Appendix 7):

> In order to demonstrate to management that the Max Safety campaign is working and has the hearty endorsement of all pilots, I would like to start sending a series of clear, unmistakable signals to the powers that be. The simplest and most effective way of doing that is by selecting one of the 72 tips I sent to everybody on the four safety checklists and emphasizing it for a period of time. At just about the time we demonstrate that we're all working together on that one item, I'll switch signals, select another item from the checklists, and send you all a postcard with the effective dates for featuring that item.

The first tactic-of-the-week signaled by ALPA was to use extra time when leaving the gate and taxiing to and from the gate in order to build delay into Eastern's flight schedules. The next tactic-of-the-week concerned flying at lower altitudes in order to burn more fuel. A copy of ALPA's postcard emphasizing that more fuel is consumed at lower altitudes is attached as Appendix 8. The results of these tactics should not surprise anyone.

Eastern's windshield replacements are up 72% in 1987 over a similar period in 1986 because pilots have been claiming that their vision is obscured, a subjective complaint which is often difficult to validate. (Appendix 9). Nevertheless, if a pilot writes in the logbook that his vision is obscured, Eastern changes the windshield. Our replacement of certain avionics-related parts is up 128% in 1987 over 1986 levels. (Appendix 10). The replacement rate for certain altimeters in 1987 has increased by 150% over the rate for a similar period in 1986. (Appendix 21). Mr. Chairman, these component turnover rates far exceed anything Eastern has ever experienced and it is clear that the ALPA slowdown is the direct cause.

Another significant part of the slowdown is the placement of juvenile stickers in the cockpit with anti-management slogans such as "Warning: Inflammatory Sticker" or "Had Enough Yet." We have reproduced a few of these stickers at the end of our testimony for your review. (Appendix 3).

In one of several mailings to Eastern pilots, ALPA reveals the true intentions behind the stickers. (Appendix 20).

> As usual, I've included a batch of stickers with this mailing. But take extra care where you stick them. The printer only had "industrial strength" adhesive left and he assures me that once they get stuck, they'll stay stuck. You have to peel these babies off with a blow torch.

Placement of these stickers in the cockpit is a violation of the FARs and they can adversely affect safety by disrupting a pilot's instrument scan. For this reason, the FAA has stated that the stickers impose a "negative aspect on safety" and asked Eastern's management to have the stickers removed from the cockpit. (Appendix 11). Valuable mechanics' work hours have been devoted to the removal of these stickers on a nightly basis.

Although not all of Eastern's pilots are participants in the slowdown, ALPA ensures that those who do not agree with these disruptive tactics are subject to ridicule and peer pressure. A particularly good example is the attached flyer which lists the names of certain non-participating pilots and makes the statement "Don't Be a PUSSY PILOT." (Appendix 12).

WHY A SLOWDOWN NOW?

ALPA would have you believe that Max Safety is a program designed to improve safety at Eastern. While this is an admirable ideal, Eastern wonders why it was started in early 1987. Deregulation came to the industry in 1978 and many of the ALPA allegations about the eroding margin of safety started at that time. Where was Max then or in the 10 years since? Why did he finally surface? The answer lies in the fact that Max Safety, like so many other ALPA safety scare tactics of prior years, is really an ALPA response to a labor management dispute over wages, fringe benefits and working conditions.

In 1986, Eastern suffered a loss of approximately $131 million; between 1981 and 1986 the cumulative loss for Eastern was $494 million. In contrast, the Eastern pilots' average compensation was more than $100,000.00, with some pilots earning as much as $140,000.00. For this, Eastern's pilots worked an average of about 52 "hard hours" per month.

Eastern was acquired by the Texas Air Corporation in November of 1986. Texas Air also owns Continental Airlines, whose pilots decertified ALPA and are not represented by any union. ALPA believes that Continental's wages and work rules must be the same as Eastern's in order to preserve the Eastern pilots' life style. In his March 12, 1987 newsletter, the Chairman of Eastern's ALPA unit wrote, in referring to Continental's pilots, that "we cannot survive without them." (Appendix 22).

In early 1987, Eastern advised its unions that it was necessary for Eastern to restructure its labor costs if Eastern were to remain competitive. The pilots at Eastern refused to enter into meaningful dialogue aimed at producing this result and instead developed the following strategy. (Appendix 25):

"The Plan"

1. Comprehensive organizing campaign of all Texas Air pilots.
2. Offer IAM and TWU our proposed fence for a joint effort. Management has stated that they need all three groups to agree before they will give relief on the transfer of assets.
3. Deliver to management our transition agreement with or without the other union participation.
4. "If" management agrees to our transition agreement, then we will bargain for one contract (all TAC pilots) and one seniority list.
5. If there is one list, it makes no difference to pilots what color the aircraft are painted.
6. Use any and all means to achieve this objective:
    a. Lawsuits, public awareness through media, legislative initiatives, informational picketing, etc.
    b. Comprehensive max. safety campaign on Eastern.
    c. Job actions.

I strongly suspect that if Eastern were today to announce that it no longer desired its pilots to restructure pilot labor costs, Max would disappear. Why else would Max ask "Had Enough Yet?"

EFFECTS OF THE SLOWDOWN

In spite of the union's tactics, Eastern has managed to serve the travelling public safely and efficiently during this period. Nevertheless, it has not been without considerable difficulty.

At those stations where Eastern does not employ its own mechanics, the rate at which pilots are writing minimum equipment items in the logbook has increased nearly eight fold since December of 1986. (Appendix 13).

At airports where Eastern has maintenance facilities, it has its own maintenance staff and spare parts. At airports where Eastern does not have a maintenance staff, it must send in its own mechanics or contract with other airlines or aircraft maintenance contractors to service its planes. Spare parts may not be available at non-maintenance airports and must be flown in. Forcing noncritical items to be checked at non-maintenance airports, instead of permitting them to be checked at maintenance airports, greatly increases the chances flights will be delayed or cancelled.

Eastern's mechanical cancellation rate, which reached an 11 month low in April of this year, started to increase when the slowdown started. (Appendix 14). The same was true for the combined delay and cancellation rate attributable to mechanical reasons. (Appendix 15). What is particularly frustrating is that Eastern had been steadily improving its overall performance in a variety of areas, only to see some of the gains eroded as a direct result of the slowdown.

For example, between March 1986 and April 1987, Eastern reduced the number of MELs open five days or more by 60 percent. (Appendix 16). Similarly, Eastern reduced the daily average number of open MELs by 30% between January 1986 and January 1987. In January and February of 1987, before the slowdown started, Eastern was opening and closing approximately the same number of minimum equipment items as it had during the same period in 1986. But, in March, when the slowdown began in earnest, the numbers increased dramatically and in May of this year, Eastern opened and closed approximately 25% more MEL items than it had the year before. (Appendices 17 and 18).

Mr. Chairman and Members of the Subcommittee, this is not a coincidence, but a calculated attempt by ALPA to inflict economic harm on the company. (Appendix 19). Eastern is responding to these tactics by redoubling its efforts to reduce the number of open maintenance items. Today, Eastern's MEL count is lower than at any time in the last two years and we will strive to get it even lower, even in the face of this disruptive activity.

One thing is certain; Eastern would have fewer open maintenance items today if employees did not have to remove ALPA stickers from cockpits, investigate postcard complaints designed only to waste FAA and company resources and troubleshoot alleged malfunctions not in need of repair.

INCENTIVE COMPENSATION PROGRAM AND EMPLOYEE DISCIPLINE

Eastern's incentive compensation program has been the subject of recent union-generated media attention and I would like to set the record straight about who is covered by it, why it exists and how it works to improve employee productivity and increase safety.

First, it does not apply to Eastern's union employees, but to management and non-union personnel including maintenance supervisors, reservations agents and ticket agents.

The incentive compensation program exists at Eastern for the same reason it is gaining popularity elsewhere -- employees who meet or exceed performance goals and who demonstrate initiative should be rewarded for their efforts. For example, by rewarding a maintenance supervisor for reducing mechanical delays, the incentive program responds to the concerns of this Subcommittee and the Congress for better on-time performance. This radical notion-- that people should be rewarded for outstanding work (or held accountable for poor performance) -- is being criticized by the unions as anti-safety.

Nothing could be further from the truth. Eastern believes that incentives are pro-safety. For example, by rewarding a maintenance supervisor for clearing open MEL items, preventing ground handling incidents or on-the-job injuries, Eastern encourages him to be more productive which, in the process, enhances safety.

Eastern has not and will not take disciplinary action against anyone who incurs a delay or a cancellation for legitimate safety reasons. But, Eastern must hold its employees accountable for their actions. You are accountable to your constituents; your staff is accountable to you and I am accountable to Joe Leonard and Phil Bakes, Eastern's Chief Operating Officer and Chief Executive Officer. Why should our rank and file employees be any different? If a decision is a correct one, then the employee will be complimented. However, if a pilot strands 150 passengers by refusing to fly an airplane without justification (as one did recently because a rear section of the windshield was allegedly obscured when in fact it was measured as within tolerance), he should be disciplined. If a mechanic signs off a repair as having been accomplished when in fact it was not, he should be disciplined.

However, it is important to put the discipline issue in perspective. ALPA frequently alleges harassment or cites management pressure to fly airplanes when they should not be flown. The allegation is simply not supported by the facts. In the past eight months, Eastern has suspended four captains without pay for making poor decisions in the cockpit. That is four incidents out of 360,000 flights. During the same period, another 50 pilots were counselled; in other words, their decisions were questioned by management. Does this sound like harassment? What would the members of this Subcommittee do if one of your staff members decided, at the last minute, not to prepare an amendment you had requested for floor action -- on the grounds that he just did not agree with your position? Chances are, you would at least talk with the individual; perhaps, you would do more. The point is that management has both the right and the responsibility to question the decisions of its employees.

Mr. Chairman, the entire air transportation system is based on personal accountability -- whether it be signing a logbook, an airworthiness release, a dispatch release, or a training record. Eastern's attempts to inject personal responsibility and accountability into other areas of the company are entirely consistent with this philosophy. We believe they are absolutely essential if we are to run an efficient, profitable, and most of all, a safe airline.

In a recent report prepared by an FAA inspection team on the operations of one of the major carriers, the following observation was made:

> However, the team observed instances of...lapses of discipline in cockpits. ... The presence of these behaviors is primarily due to a lack of clear cut, definitive guidance from those responsible for developing and standardizing cockpit procedures. ...[M]anagement has maintained a policy of delegating the maximum degree of responsibility and discretion to its crewmembers... However, in an increasingly complex and stressful environment the limit of this policy appears to have been reached.

Mr. Chairman, I appreciate the opportunity to testify before the Subcommittee and would be happy to answer any questions which you or the other Members may have.

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1. ALPA Newsletter, January 23, 1987.
2. ALPA Questionnaire Distributed to Eastern Pilots.
3. Selected Max Safety Stickers.
4. Document Entitled "The 'Slowdown' As A Negotiating Tool", August 1968.
5. Eastern's Pilot Report Rate, October 1986 to September 1987.
6. ALPA Max Safety Flyer.
7. Max Safety Handout Depicting Strategy of Targetting Selected Components for Write-Up.
8. Max Safety Handout Encouraging Slow Taxi and Low Altitude Operation.
9. Eastern's Windshield Usage: 1986 versus 1987.
10. Eastern's Usage of Selected Avionics Related Parts: 1986 versus 1987.
11. Letter from the FAA to Eastern Regarding ALPA Sticker Campaign, July 20, 1987.
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15. Eastern's Total Delay and Cancellation Trend for Mechanical Reasons: June 1986 through September 1987.
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17. Eastern's Open MEL Activity (All Stations): 1986 versus 1987.
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20. ALPA Flyer Explaining That the True Intent Behind the Sticker Campaign Is to Deface Eastern's Property.

21. Replacement Rate for Certain Altimeters.

22. ALPA Newsletter, March 12, 1987.

23. Ratio of Inventory Dollars to Flight Equipment.

24. Locations At Which Eastern Employees Its Own Mechanics.

25. ALPA Newsletter Detailing Its Multi-Faceted Strategy Against Eastern, March 10, 1987.

AWARENESS

ppendix 1

January 23, 1987

TO: All Eastern Pilots
SUBJECT: Status Update

By the time you receive this letter, you should have received another audiogram, which is a live taping of my presentation to a Miami local council meeting. This is the same presentation, without the question-and-answer period, that I gave to all members at a recently concluded road show. The purpose of the tape is to let everyone in the system who was not able to attend the meeting hear firsthand what was said. Please let us know your reaction to this type of communication vehicle through the Family Awareness network or through your local council representatives.

On January 22, we gave a comprehensive plan to the Executive Committee of ALPA. They unanimously passed resolutions supporting our program, including an initial funding of some two and one-half million dollars. They recognized that the Eastern Air Line pilot problem is a problem for all of ALPA, and the Executive Committee gave their full endorsement and support to our efforts. I also informed them that we would not be sending an assessment ballot to our members beyond the initial one that the MEC passed.

On January 21, the new management held a press conference in Miami. We were not informed of this, nor were we asked to attend. I was assured by management that they would come to the MEC first with their request, before it was discussed publicly. Our disappointment was registered to management over this breach of proper business etiquette, and I have instructed our attorneys to review the question of unfair labor practices, since they chose to "bargain" with the pilots directly through the news media and via the Eastern Falcon newspaper.

On January 22, a hand-delivered letter was received at the MEC office from Mr. John Adams requesting a meeting with the three union leaders on February 23rd. The letter was pre-dated January 21, the day of the press conference. Perhaps a mistake occurred, although that is doubtful. In any event, we will attend and listen to what management has to say about their 1987 Business Plan, and we will ask for whatever data they have to substantiate their claims that the pilots of Eastern are paid "above the market rate." We will share this information with you at the earliest possible date.

Recently we all received a notice from management on the question of alleged excessive absenteeism here at Eastern. This new policy is a violation of our contract and will be dealt with accordingly.

A recent survey conducted by a leading university has been concluded. Those of you who participated in this project are to be commended for the time you spent in answering the questionnaire, and in a separate mailing the findings will be made public. Suffice it to say that the study shows that the pilots of EAL and their families have been stressed out. Their research shows that "pilot performance deteriorates with accumulated stress. Pilot error, which accounts for 50 to 80% of all aviation mishaps, is a result of inadequate stress coping..." and, further, "significantly more pilots in the unstable airlines reported two or more illnesses in the past six months than pilots in the stable airlines."

What this "Airline Pilot Stress Project Report" shows is that increased economic stressful work events lead to a variety of psychological and physical illnesses. A program of intimidation and threat to deal with alleged absenteeism is designed to cure the symptom and not the illness itself. It is, in fact, a self-defeating program that will only lead to more stress and therefore more illness. We have hired professional psychologists to assist us in learning how to deal with this program and you will be receiving information on this shortly.

Finally, the opening salvo of additional pay concessions has been fired through the news media, and as far as we can tell is some 27%, in addition to what we pilots have already given. I caution you not to jump to conclusions and to wait until we hear directly what the overall plan of management is. Remember that our contract is not open until 1988 and that unless we choose otherwise, we do not have to open it. Recently you voted by 94.3% in favor of membership ratification and ultimately we will decide together what we will do.

Sincerely,

Jack Bavis

Jack Bavis
Chairman, EAL MEC

JB:db

Appendix 2

EAL COUNCIL 18 QUESTIONNAIRE

Capt. F/O S/O ____________________ ALPA Member? Yes No
(Circle One) Name (preferred but optional)

1) Do you want a Fence Agreement before we talk to management about concessions?____________________ Yes No

2) Should we open our Contract for negotiations?__________ Yes No

3) Do you desire to give up nothing until the IAM is dealt with? Yes No

4) Do you desire to make any more concessions regardless of what happens to IAM or TWU?____________________ Yes No

5) Do you desire to give whatever concessions the Company requests? Yes No

6) Are you willing to make certain reasonable adjustments to our Contract as long as they are found to be justified?__________ Yes No

7) Are you willing to shut down the airline if necessary to show management your unwillingness to continue our downward spiral? Yes No

8) No more concessions, even if my career as an EAL pilot would be terminated as a result?____________________ Yes No

9) Are you in favor of no pilot furloughs?__________ Yes No

10) Are you in favor of flat salaries based on status and years of service?____________________ Yes No

11) Should we have a Retirement Plan?__________ Yes No

    a. A & B, like present Yes No

    b. A Plan only (Fixed Retirement Benefit) Yes No

    c. B Plan only (Inflation Fighting Variable Benefit) Yes No

    d. 401K Plan only, like CAL Yes No

12) Should we have Company paid medical benefits? (Continental pilots pay for their medical plans.) __________ Yes No

13) How much are you willing (bottom line) to work for?__________ __________

14) Should we not have Type II privileges?__________ Yes No

15) Should we have parity with other EAL employee group pay raises? Yes No

16) Should we have Labor Protection Provisions to safeguard our jobs as provided by the Airline Deregulation Act of 1978?____ Yes No

17) Are you against the new unilateral change to the sick leave policy?____________________ Yes No

18) Are you in favor of having instructors in the Training Department who are active line pilots?____________________ Yes No

19) Do you want instructors in the Training Department that are retired non-line pilots and potentially out of touch with the real world?____________ Yes No

20) Do you want your uniform allowance increased?____________ Yes No

21) Should we attempt to organize the TAC pilots into ALPA?________ Yes No

22) Do you desire to continue a coalition of ALPA, TWU, and IAM as it may be in our best short and long term interest? Yes No

23) Do you support the elimination of the present S/O A, B, C & D 5 years two-tier scales?____________ Yes No

24) Would you support a job action at this time, such as:

   a. Fly by the book Yes No

   b. Not available for draft Yes No

   c. Other, explain____________

25) On a 1 to 10 scale (1 low - 10 high), how do you rate the following:

a. MEC Leadership ____
b. Jack Bavis Leadership ____
c. Frank Lorenzo Management ____
d. Eastern Management ____
e. Job Satisfaction ____
f. LEC Representatives ____
g. Days Off ____
h. Reserve Guarantee ____
i. Vacation ____
j. Draft Protection ____
k. Hours on Duty Rig ____
l. Hours away from Base Rig ____
m. Medical Insurance ____
n. Dental Insurance ____
o. Life Insurance ____
p. Sick Leave ____
q. Downbidding ____
r. Foreign/Night Pay ____

26) Do you assume that Company profitability will result in better pay and working conditions?____________ Yes No

27) IAM personnel are currently paid "industry standard", the EAL pilots are not. Are you willing to commit yourself to supporting the MEC's efforts to improve your Contract?________ Yes No

28) Do you think the MEC is TOO TOUGH/TOUGH ENOUGH/SHOULD GET TOUGHER with Managment? (Circle One)

29) Will you support the MEC when they draw the line?____________ Yes No

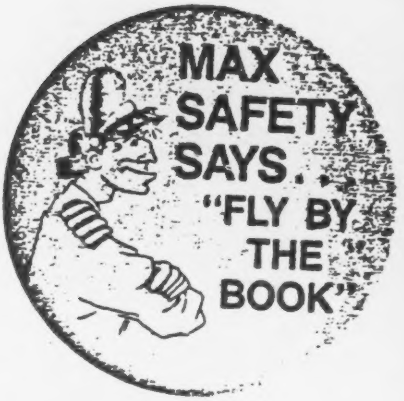
30) Do you feel the Miami Herald is fair in their editorial and/or news stories as they pertain to EAL pilots?____________ Yes No

31) Would you be willing to boycott the Herald if asked to?________ Yes No

32) What other questions should be asked?____________

PLEASE MAIL YOUR COMPLETED FORM TO: RICK MONNAR, EAL-18 SEC/TREAS., AIR LINE PILOTS ASSOCIATION, 1722 PONCE DE LEON BLVD., CORAL GABLES, FL 33134

Appendix 3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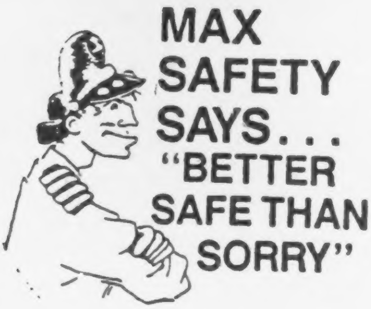
"FLY BY
THE
BOOK"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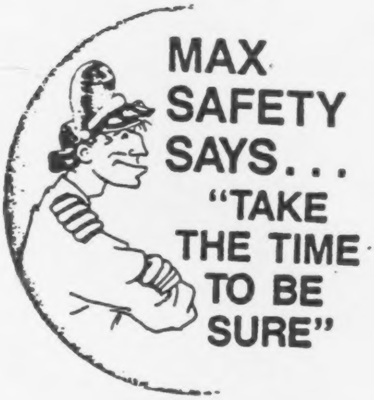
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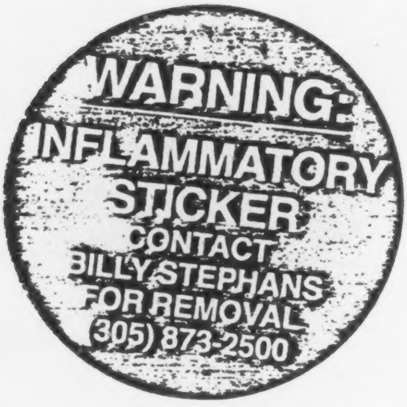
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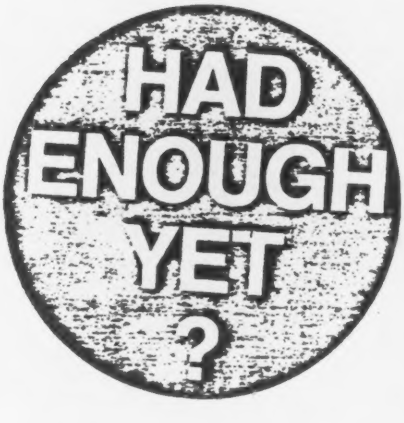
STICKER
CONTACT
BILLY STEPHANS
FOR REMOVAL
(305) 873-2500


HAD
ENOUGH
YET
?

Appendix 4

MAX L. DAVIS
1320 CORNHILL COURT
McLEAN, VIRGINIA 22101
• • •
[illegible]

August, 1968

THE 'SLOW-DOWN' AS A NEGOTIATING TOOL

• • • • • •

A CRITIQUE

This report deals with the recent 'Safety Program' which was inaugurated on Eastern Air Lines during the month of May, 1968. It deals both in generalities and specifics with the program authorized by the MEC and which was titled as a program for the "Withdrawal of the Spirit of Cooperation". It was part of a total effort in support of the Negotiating Committee to conclude a new pilot working agreement.

The report has been prepared in a manner which hopefully could serve a future use or purpose, either by the Eastern MEC should it again become necessary, or by other MECs and pilot groups which might wish to initiate a similar program. The report has been written in a manner to outline in general how we came to launch the program, the problems involved in planning it, placing it in operation and sustaining it in effectiveness after the initial "light off". Finally, it offers specific suggestions which may be helpful to others who may want to avail themselves of this negotiating tool.

BACKGROUND

Direct negotiations between the Eastern Pilot Negotiating Committee and the Company for a new working agreement began on June 5, 1967. During the ensuing eleven months the Committee met with the MEC on a monthly basis to report on the progress and the then existing status of negotiations.

By January 1968 the Committee was reporting no substantial progress in negotiations and, indeed, was awaiting the appointment of a Mediator by the National Mediation Board. At an MEC meeting held that month the MEC adopted a resolution calling upon the Eastern pilots to operate their flights "by the book" as part of a "Safety Program". This envisioned strict adherence to the operating provisions set forth in the Company aircraft Flight Manuals and Operations Manuals. Additionally, it was expected that the pilots would operate strictly under the provisions of the regulations of the Federal Aviation Administration.

Unhappily the "safety program" got off to a slow start. Because of the lack of necessary direction and enforcement at some of the Local Councils the program, for the most part, withered on the vine.

Along about the middle of March 1968 the TWA MEC authorized a "WOE" program. Their "Withdrawal of Enthusiasm" program appeared to be a success. In the meantime I had constructed a letter in draft form which outlined my concern for the direction the negotiations seemed to be headed, towards an eventual pilot strike. During the week of April 8 I put my letter in final form and delivered it to Chairman Tully. He presented it to the MEC on April 18 and the concepts and recommendations for a program of action were adopted by the MEC in a resolution which called for a "positive slow down" by the pilots.

PLANNING FOR THE PROGRAM

The MEC had authorized Chairman Tully to appoint those whom he wished to use in planning for and implementing the program. Several days after the conclusion of the meeting he asked me to assume full responsibility for planning, organizing and coordinating the program as it was finally developed and presented.

On Monday, April 29 I flew to Chicago to work out of the Home Office where there would be available the necessary secretarial help and the print shop and mail room facilities.

The planning for the program to "withdraw the spirit of cooperation", which for us became synonymous with the term "slow down", had already become complicated by the fact that now we were under the control of the National Mediation Board. This meant, of course, that there could be no change in the "status quo" with respect to the negotiations between the Pilots and the Company. Chairman Tully and I began immediate consultations with President Ruby and Henry Weiss, ALPA General Counsel. They were able to provide general guide lines by which they believed we could proceed to develop our program.

It was decided that the program had to center around the concept of a general deterioration of pilot morale due to the prolonged negotiations as well as other problems and grievances which had been developing between the Pilots and the Company over the months. In addition, the theme was developed which called upon the pilots not to let problems of low morale influence them adversely in the safe operation of their daily flights.

Fortunately, the concept set forth in the paragraph above fit nicely with our earlier "safety program" and probably was one of the more important factors in being able to successfully rebuff the Company and the National Mediation Board when they alleged we were in fact moving off the "status quo". Chairman Tully and Mr. Weiss were successful in denying that allegation because of the January progr

After the consultations with President Ruby and Mr. Weiss and the concurrence of Chairman Tully with respect to the final decisions as to concept and theme of the program, I developed an outline and time schedule for the writing and publishing and mailing of letters and bulletins to the Eastern Pilots. Keep in mind that it was now April 30 and the MEC had established a date of May 6 by which the program was to be operational. On April 30 and May 1 six letters and bulletins were drafted, approved by Chairman Tuldy and then put in final form, ready for the print shop and mail room. The letters and bulletins ran any where from a single page to three pages in length. They consisted of rather simple bulletins alerting the pilots to the program and the forthcoming mailings as well as detailed letters of the information and newsletter type with lengthy reviews of the negotiating situation and including sample news releases planned for the press and TV and radio.

We believed it essential that all the Eastern Pilots (some 3600, based in six domiciles) be fully informed as to the MEC decision to go the route of the slow down in support of the Negotiating Committee. We believed that an informed Pilot group was more likely to be responsive to the program and this proved to be the case. All the letters and bulletins were scheduled through the print shop and out of the mail room with precise timing. This was important for we believed it necessary for each pilot to receive a daily mailing concerning the MEC program setting forth the planned effort and calling on each pilot for his support. We were able to maintain the schedule of mailings from the Home Office as planned for the first ten days of the program.

Also on April 30 I outlined a letter to the members of the MEC and the Local Council Coordinator (selected by Chairman Tully) with whom I would be in daily contact for the duration of the program. That letter not only set forth the schedule for the mailings but detailed the need for the appointment and assignment of "action crews". These crews were to be assigned on an around the clock schedule at the local crew rooms, operations offices, parking lots and wherever they could be used for the purpose of contacting the outgoing and incoming crews and seeking their support of the program.

The Local Council Coordinator also was requested to put up posters on the pilot bulletin boards at an appointed time on the morning the program was to get under way. In addition to the posters, which had been mailed from the Home Office, there was a special bulletin for the day of May 6 which was to be placed in each pilot mail box in the crew rooms.

In recognition of the need to involve each pilot on an individual basis, one of the letters outlined the desire for every pilot to send an individual telegram to the President of the Company. Towards this end a sample telegram (night letter, its cheaper) was included in the letter. We don't know how many telegrams were sent but we believe they were in the hundreds.

One of the letters which went to the Eastern Pilots contained the initial new release which was put on the Association PR wire out of the Home Office on May 5, for release on May 6, the day the program was set to begin. Additionally, I made personal contact with the labor editors of the metropolitan newspapers in New York City and Washington, D. C. The names of editors of several papers and aviation trade publications had been furnished me by men who had played key parts in the TWA "WOE" program. We did not enjoy near the success in newspaper coverage as did TWA. In trying to analyze why, we have concluded that our program followed close enough behind the TWA show that our program was simply no longer news. We had limited success in news coverage in Miami where Eastern has large numbers of employees in the area. The success there was due mainly to the efforts of the Local Council Chairman J. B. Railsback who pursued the press for coverage.

We fared much better in the other media. We received extensive coverage on the local Atlanta TV stations, almost daily spot news bits. This was accomplished through the efforts of the Local Council Representatives Bill Malone, Chairman and Bill Scruggs, Vice Chairman of Council 7. Through personal contacts and determined effort they had the best TV coverage of any city on our system.

LIGHT-OFF

The program to demonstrate the pilot "withdrawal of the spirit of cooperation" was scheduled to begin at 12 o'clock Noon on Monday, May 6, 1968. That morning the Local Council Coordinator hung the posters and stuffed the pilot mail boxes. Action crews had been briefed and at noon the program was under way. Those press releases which were published by the local papers were before the public. That evening the first TV news spot was seen in Atlanta. And the pilots moved to support the program in the numbers for which we had hoped. There were some bases where the support was stronger than at others. At the slow moving bases we acted to beef up the effort by frequent telephone calls and reports of progress elsewhere.

We experienced some situations where there was a feeling that there was not enough information about the program. In these cases we tried to fill in with whatever was needed. As mentioned earlier, I had left some six letters and bulletins in the print shop and mail room at the Home Office for a scheduled distribution. When we saw that we were not getting the press coverage we wanted, Chairman Tully asked me to draft additional new releases. These were called by telephone to the editors of the big city papers and the aviation trade journals. I personally hand carried releases to the Washington papers.

Additional letters were drafted, approved by Chairman Tully and called by phone to the Council Office at Chicago for typing and printing and mailing to the Eastern Pilots.

At the Atlanta base the Local Council Coordinator and his action crews developed forms for determining the success of the program. Incoming crews were asked how many minutes had been lost on each leg flown. 'A record of delays and cancellations was kept at both Atlanta and Miami.' It was quite apparent that the initial days of the program showed a marked success equal to that which we expected.

THAT TIRED FEELING

Towards the end of the first week we detected a gradual dwindling of interest. About that time the Negotiating Committee published a rather broad and complete review of the then current status of negotiations. Local Council Officers scheduled local meetings for the purpose of bringing the latest news and reports to their members.

On the tenth day of the program a letter from Chairman Tully reached the pilots and this seemed to provide a shot in the arm. In the meantime Chairman Tully received communciations from Eastern Management alleging violation of the Railway Labor Act by moving from the "status quo" while under the control of the National Mediation Board. Consultation on his part with President Ruby and Mr. Weiss provided a basis for response to the Company charges. Publication of those exchanges on the ALPA Pilot bulletin boards at the bases seemed to provide another shot in the arm to the pilots who were looking for the action.

By the twelfth day Chairman Tully began to receive "signals" and as this information seeped out to the pilots one could feel the spirits rise. I made daily and sometimes twice daily contacts with the Local Council Coordinators or Council Officers if the former was not available. Chairman Tully and I were in frequent contact and as he would authorize me I would pass on that information which was of significance.

Through our continued news bulletins and single page letters to the pilots, through the frequent phone calls to the Local Council Coordinators we were able to maintain a fairly well informed pilot group. The simple fact is, however, that in situations such as those we were dealing with, there is never enough news to satisfy the pilots on the line. One simply does his best to answer the questions and to keep that information which is available flowing to the pilots.

PRESSURES MOUNT

As indicated earlier, Chairman Tully began to receive telegrams and letters from the Company requesting that the slow down be called off. Earlier the Mediator had withdrawn from the picture for a short period of time. Then the Company and the Pilot Negotiating Committee met on their own initiative. Finally, after the slow down began those direct negotiations were terminated. In a week or so the Mediator, Mr. L. Edwards called the parties together once again after the slow down had begun. He too, tried to bring pressure on Chairman Tully and the MEC to call off the program. Threats of possible law suits against ALPA, the Eastern MEC and Chairman Tully as an individual were made. Constant communication was maintained by Chairman Tully with President Ruby and Mr. Weiss. In every instance, the charges and allegations were rebuffed. Both men gave strong and unstinting moral and legal support and advise.

WHO GETS THE CREDIT

The credit for the success of the program does not belong with the members of the MEC, the Local Council Coordinators, those who planned or organized and coordinated the program. The credit for the program's success is that of the Eastern pilot who participated in the slow down. It was the individual, whoever he might have been, whatever his job in the cockpit, who deserves the credit for the final success. For succeed we did. Twenty-one days after the program began, on May 27 the Eastern Pilot Negotiating Committee reached an agreement with the Company for a new contract, subject to MEC ratification. The significance and import of the program is indicated in the fact that in the space of four days of face to face negotiations with the top six or eight operating officials of the Company, including the Chairman of the Board of Directors, who himself negotiated for the Company, a contract was agreed to. This after eleven long, fruitless months of on and off negotiations.

FOR THOSE WHO FOLLOW - HOW TO SUCCEED

What follows are specific thoughts on how I would put together a similar program in the future. They are, of course, subject to modification based on any given situation, the size of the pilot group, the geographical spread of the Councils and domiciles, etc.

1. MAKE SURE THAT YOU ARE LEGALLY IN THE CLEAR TO LAUNCH SUCH A PROGRAM. No one wants a law suit against the Association. If you are not in mediation you have a different situation than we had. In any event be sure and check first with the President of the Associatio and the General Counsel. Those two men have been over the road before

2. ALLOW PLENTY OF TIME FOR PLANNING AND PREPARATION. You will need all the time you can get. The Eastern MEC set up a time schedule which looked almost impossible to meet. Our program was put together in about four days of intensive planning and work. That simply is not enough time.

3. START THE BALL ROLLING WITH A LETTER FROM A RESPECTED AND WELL KNOWN MEMBER OF THE AIRLINE. This was done on TWA by way of a letter to that Management and by me in a letter to the MEC Chairman and the MEC. The letter should outline the problems and assess the need for the [illegible] [illegible] the letter will find its way into the [illegible]

of Management. If the author is well known to management it learns that something must be wrong at the pilot level to generate such a letter. If the author is known to the pilot group the letter serves to state the problem and perhaps solidify the pilots into a more ready group for action.

4. TIMING FOR THE START OF THE PROGRAM IS MOST IMPORTANT. All pilots are concerned about their pay check. If the program is launched early in the month then a pilot has a chance to make up lost or cancelled trips. The program should be under way no later than the tenth of the month. We kicked off our slow down on a Monday. This is no good. To begin on a Wednesday is ideal. You will need available the mail service and the facilities of the Home Office. You will find it most difficult to try to begin such a program over a week-end with a Monday start. Try Wednesday.

5. LEAD OFF THE PROGRAM WITH A WELL DEVELOPED EDUCATION PROGRAM. Outline the history of the negotiations or whatever the problem. Pilots want to be informed and they expect to know why they are called upon to do a thing or to follow a proposed program. Letters or reports from the Negotiating Committee are essential. Copies of letters to Management stating problems and asking for cooperation in solving them are especially important if Management has not responded. You must build your case, present it and then ask for support of it.

6. PLAN TO CREATE A SITUATION WHEREBY THE INDIVIDUAL PILOT WILL BE CALLED UPON TO PARTICIPATE IN THE EFFORT. If a pilot can become personally involved he will sustain his interest for a greater length of time. The fact that he is himself a part of the program will cause him to check on the involvement of his fellow pilot. Put the individual pilot on a telephone committee if possible. Of course there are not enough of these jobs for all. Try to create a situation for individual participation. Have each pilot send a telegram to the top Company official stating that the pilot supports the program. This poses a problem for new hires and probationary men and you must realize they take a great risk in their participation as an indvidual.

7. WHEN SELECTING LOCAL COUNCIL COORDINATORS CHOOSE A PILOT WHO IS HIGHLY RESPECTED WITHIN HIS COUNCIL. Make sure he is a good worker who can take orders and then follow through right on the point. If your selection is well regarded and if he himself can follow directions then he will be the type of person who will be able to get others to follow him.

8. ESTABLISH LOCAL ACTION COMMITTEES UNDER THE CONTROL OF THE LOCAL COUNCIL COORDINATOR. The action crews must meet outgoing and incoming crews so that every-one is aware of the program and in order to get the information to those who are expected to follow the program. You simply cannot afford to have each base or people within each Council going off in different directions. Solid discipline is most important.

9. ONCE THE PROGRAM IS LAUNCHED BE SURE TO FOLLOW UP WITH LETTERS AND BULLETINS TO THE PILOTS SO AS TO KEEP THEIR INTEREST. To keep the ball rolling is just as important as getting it in play.

10. MAKE SURE THAT YOU RECEIVE THE BEST POSSIBLE PRESS, RADIO AND TV COVERAGE. The pilots will expect to see something in the paper about that which they are doing. A lack of news media coverage will discourage your pilots and the local workers. Coverage is important.

11. IT TAKES GUTS TO MOUNT A CAMPAIGN SUCH AS WE HAVE DISCUSSED. IT IS MOST IMPORTANT THAT YOU HAVE THE FULL SUPPORT OF ALL MEMBERS OF THE MEC WHEN PROPOSING A SLOW DOWN. The pressures from the Company, government agencies and others are at least equal to those exerted during a strike.

IN CONCLUSION

The slow down, call it what you will--"withdrawal of enthusiasm", "lay aside enthusiasm", "safety program", "withdrawal of the spirit of cooperation"--is essentially an economic weapon against the Company.

In my opinion the slow down, like the strike, should be used only as a last resort for it is, indeed, an ultimate weapon. When using the slow down the MEC must not only be responsible and responsive to the needs of its pilots, but it also must be responsible for the concern and welfare of the Air Line Pilots Association.

A POST SCRIPT

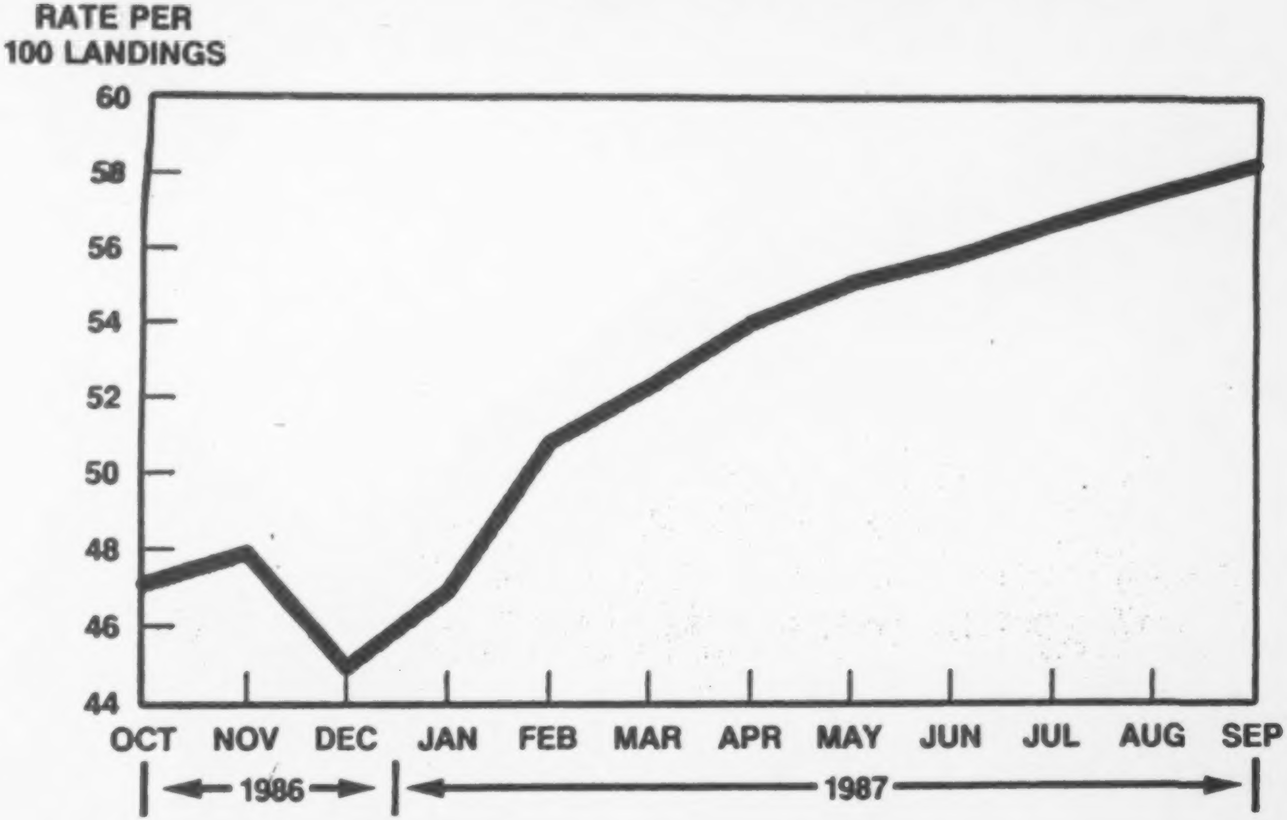
One of the reasons this report was written is because of the great number of requests I have received for information concerning our program of last May. In late June I was one of the speakers at the Educational Seminar which brought together new Council Officers and Master Chairmen. One of the topics about which I spoke is that presented here. From that meeting, too, there came requests for a written presentation which would set forth guidelines for others. As a consequence of those requests this report was furnished the Educational Department of the Home Office so the information could be printed and furnished those who might request it for study and future reference and possible use. The report was never printed because, I understand, the Employment Agreements Department expressed the concern that the report might create "difficult legal situations".

I do not suggest that I "discovered" the concepts outlined herein. They are not new nor are they original with me. I simply took the time to set down in narrative form the experiences of this past May, along with suggestions for guidance to those who might wish to use this negotiating tool.

May Davis

Appendix 5

PILOT REPORT RATE



SAFETY

No. 5

In Order to Help You, Through Pre-Planning and Preventive Maintenance Practices, to Prevent Needless Delays or Possible Trip Cancellation, You Should Be Made Aware That The Following Parts Are Very Low in Inventory. More will be Published Later.

1. Comparator. (727 & DC9)
2. Air Data Computer. (All Aircraft)
3. Receiver, VHF NAV. (727 & DC9)
4. Radar Antenna. (727 & DC9)
5. ILS Receiver. (L1011)
6. EPR Indicator. (L1011)
7. EGT Indicator. (A300)
8. N1 Speed Indicator. (A300)
9. Standby Attitude Indicator. (727 & DC9)
10. Vertical Gyro. (All Aircraft)
11. Voice Recorder. (All Aircraft)
12. ATA Decoder. (All Aircraft)
13. VHF Comm. (All Aircraft)
14. Cockpit Speaker. (All Aircraft)

Max Safety Group

* This Chart is an Accurate Reproduction of an ALPA Flyer

And I've included a few "Had Enough Yet?" stickers that you might want to place in strategic locations to cause those few "nervous nellies" in the pilot group to join the rest of us who are bringing intensified safety standards to our jobs. It serves the dual purpose of sending a message to management as well.

In order to demonstrate to management that the Max Safety campaign is working and has the hearty endorsement of all pilots, I would like to start sending a series of clear, unmistakable signals to the powers that be. The simplest and most effective way of doing that is by selecting *one* of the 72 tips I sent to everybody on the four safety checklists and emphasizing it for a period of time. At just about the time we demonstrate that we're all working together on that one item, I'll switch signals, select another item from the checklists, and send you all a postcard with the effective dates for featuring that item.

To start the ball rolling, I would like everybody to concentrate on safety tip #23 on checklist #2:

> "Avoid fast taxi speeds which can alarm passengers, cause more wear on brakes, and more side stress on landing gear."

Of course, don't just practice this safety item to the exclusion of any of the others or one of your own. I'm only suggesting that we all *feature* this item from *April 1 to April 7*. I will let you know beforehand the next safety tip we can all adopt as a team. You will find that this sort of teamwork will pay off for everyone and increase our level of safety appreciably, which should be much appreciated by management.

Again, thank you for joining in the Max Safety campaign and helping to make our efforts effective. Our unity is our strength. With everyone pulling together, no one can pull us apart.

Max

Appendix 8

MAX SAFETY SAYS . . .

Thanks to all of you for helping our safety program and emphasizing this safety tip I gave you last week . . .

#23 - Avoid fast taxi speeds which can alarm passengers, cause more wear on brakes, and more side stress on landing gear.

Continue to make this rule a daily habit . . .
In addition, starting now, also give top priority to:

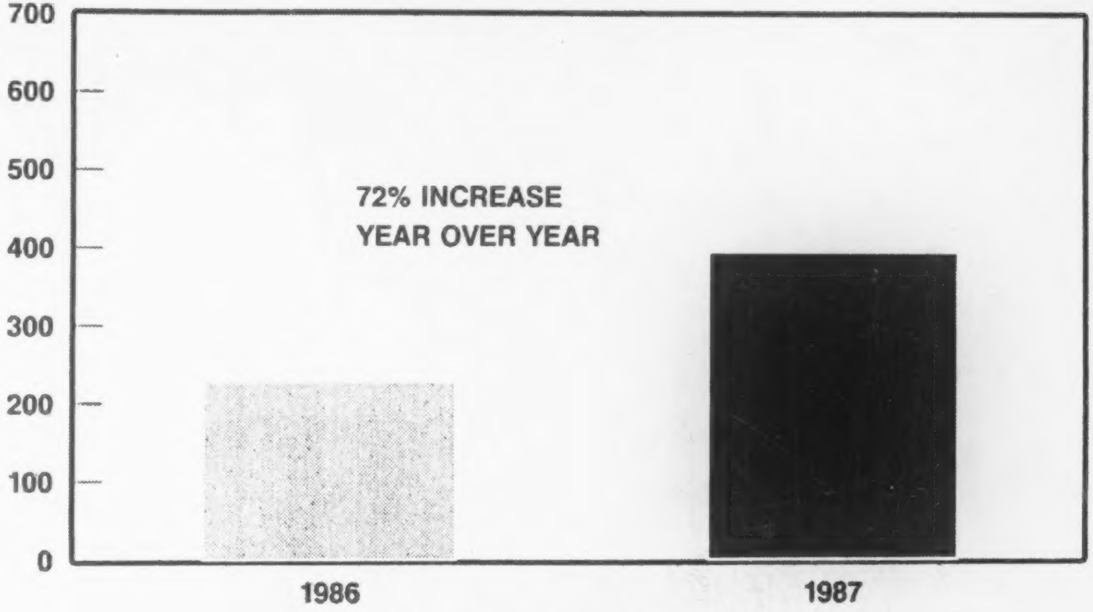
#29 - Should there be upper air turbulence forecast, your fuel burn will be greater flying at lower altitudes for passenger comfort, so plan fuel load accordingly.

Of course, don't just limit yourself to these two tips! Keep at it . . . we are having an impact! More next week.

Call my recorded message in Atlanta at (404) 968-5949.

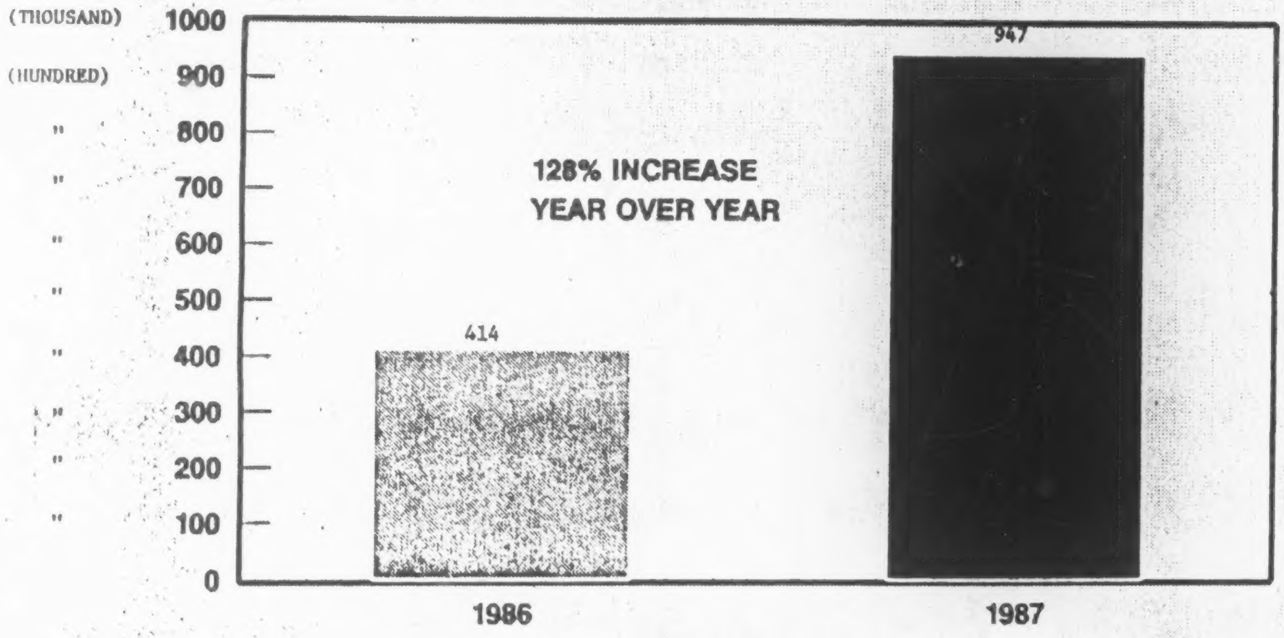
WINDSHIELDS

MARCH - JULY



SELECTED AVIONICS RELATED PARTS

MARCH - JULY



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Appendix 11

US Department
of Transportation
**Federal Aviation
Administration**

Flight Standards District Office 65
P. O. Box 592015
Miami, Florida 33159

July 20, 1987

Captain B. Stephens
Staff V.P., Flying & System Chief Pilot
Eastern Air Lines, Inc.
Miami, Florida 33148

Dear Captain Stephens:

The safety effort being conducted by some Eastern Air Lines employees has come to the point where it is actually imposing a negative aspect on safety. Some aircraft cockpits are being cluttered with decals bearing various safety slogans. These decals are seen to provide a distraction to the flight crew and, therefore, may be the cause of activities contrary to FAR 121.542.

We have observed that the presence of these decals frequently prompts conversation that is not related to the conduct of the flight and which almost always has a detrimental effect on the professional atmosphere required in a commercial airline cockpit. To remedy this sitution, we must request that Eastern remove all unauthorized decals from company aircraft and initiate measures to preclude these decals from being replaced.

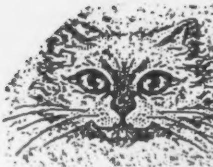
Thank you for your cooperation.

Sincerely,

Richard E. Barbieri

Richard E. Barbieri
Principal Operations Inspector

Appendix 12



DON'T BE A PUSSY PILOT

R.E. Alexander, 54 Days Vacation Bank
Bert Beech, Resigned from ALPA
John Beglan
Otis Blankenship
Collins Bosar, Removes Stickers
Jack Borsum
Carroll Cairnes
James B. Carroll
D.E. Clark, 60 Days Vacation Bank
Jim Confalone
J.D. Cook, 62 Days Vacation Bank
Robert Cummings, Removes Stickers
John Curtis
R.A. Davis, 76 Days Vacation Bank
H.V. Dixon, 76 Days Vacation Bank
Dewey Foster
Sam Garrard
A.N. Goldstein, Flies Trash
Barry Gorman, Flies Trash
Lloyd Griffiths, Franks Enforcer
Jim Haas
Wayne Haigler
ROY RODGERS - DCA - FLIES TRASH

Harry Hall
Jim Hyde
Dan Johnson
Don Kasten
R.F. Krantz, Flies Trash
Tom Lewis
Herbie Marshall
John McElhaney
Randy Northcutt
C.S. Pease, 52 Days Vacation Bank
Frank Richards
J.H. Richards
Paul Richardson
Dennis Schaar
Stu Scheer, Flies Trash
E.L. Shaw, 53 Days Vacation Bank
Glen Speaks
R.A. Stamos, 62 Days Vacation Bank
George Stark
Billy Stephens
Ed Stone
L.S. Tifes, 90 Days Vacation Bank
Kent Vanwinkle
Bill Voepel

IF ITS BROKE
HE'LL FLY IT
NOT A PUSSY - A CUNT

2-20-87
Billy On my desk the [illegible]

A Pussy Pilot is:

Naive, Selfish, Timid, Ignorant, Complacent, Fearful, Gullible, Compromising, and Short-Sighted.

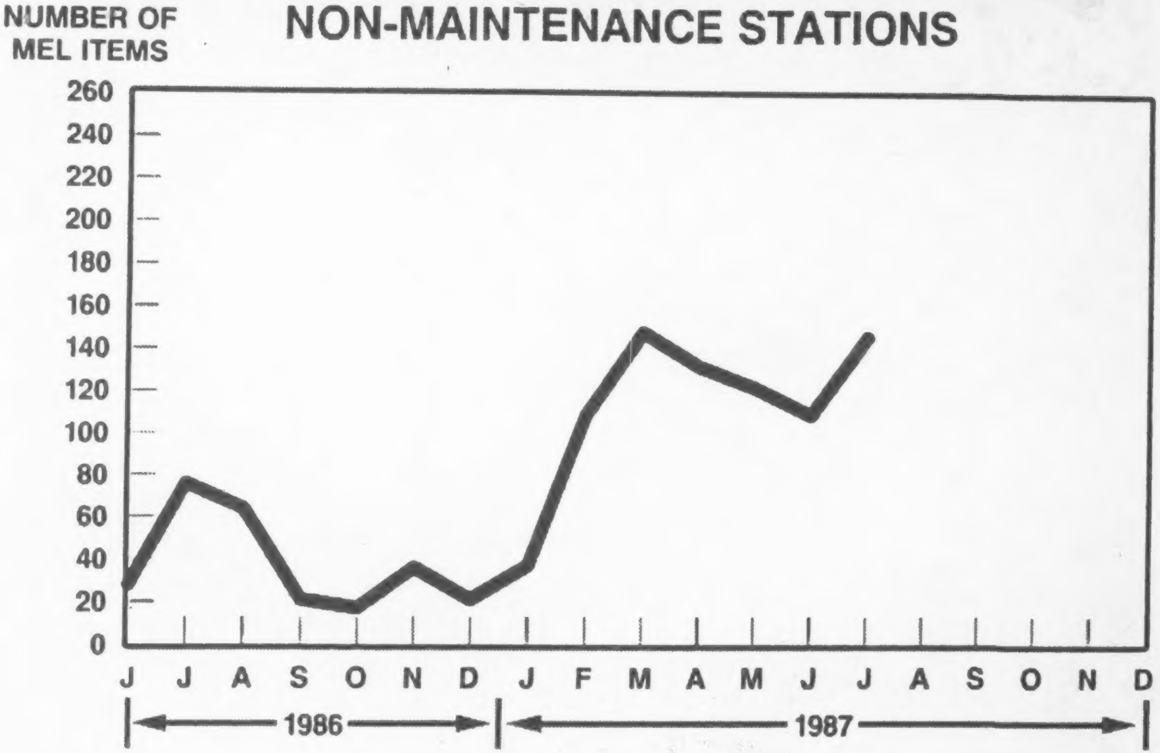
Some examples of Pussy Pilots are:

1. A Captain who accepts aircraft that are not airworthy and thinks that he is doing someone a favor by not refusing to fly it.
2. A Flight Engineer/First Officer who is too intimidated to speak up when he feels that something is not right.
3. A Captain who after enjoying many years of the highest pay in the industry, now is willing to sell-out himself and his profession in order to buy enough time to retire on a salary many of us will never enjoy while working fulltime.
4. A Crewmember who endorses Frank Lorenzo, or his methods, for whatever misguided reason.
5. Pussy Pilots don't attend Union meetings, but publicly voice their opposition to ALPA policies.
6. A Pussy Pilot thinks me, not we.
7. A Pussy Pilot peels Max Safety stickers and does not participate in the Max Safety Program.

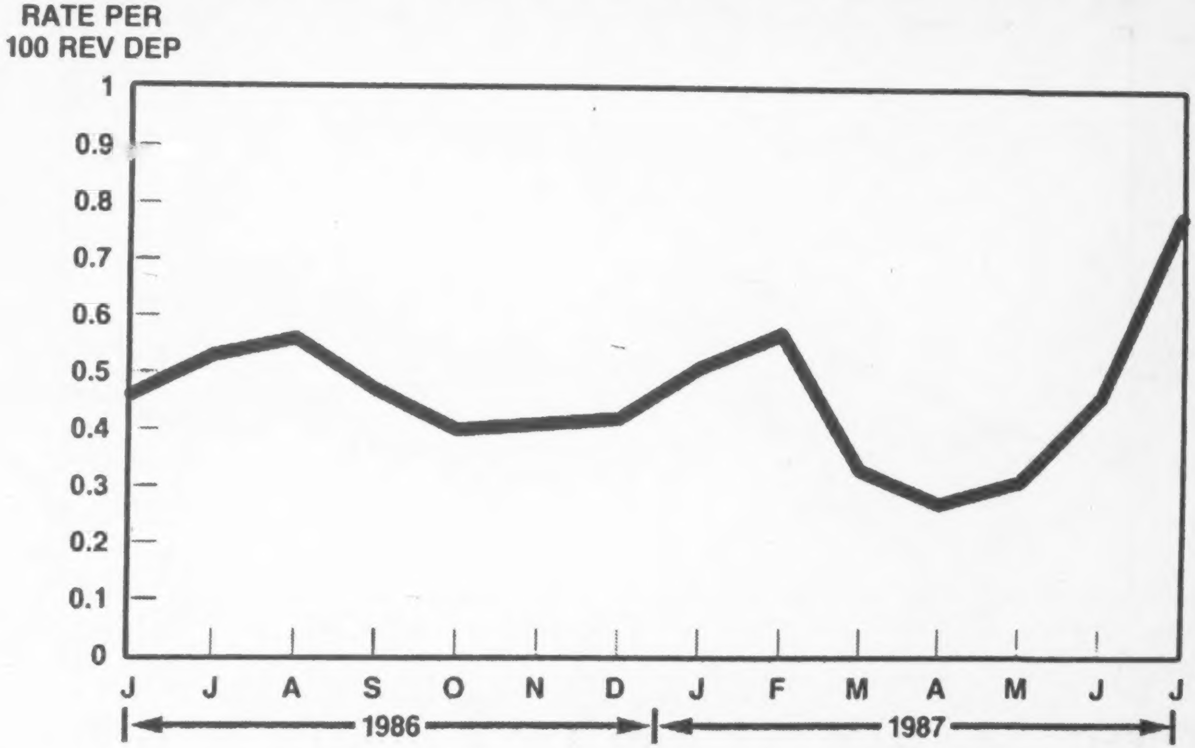
Appendix 13

OPENED MEL ACTIVITY 1986/1987

NON-MAINTENANCE STATIONS

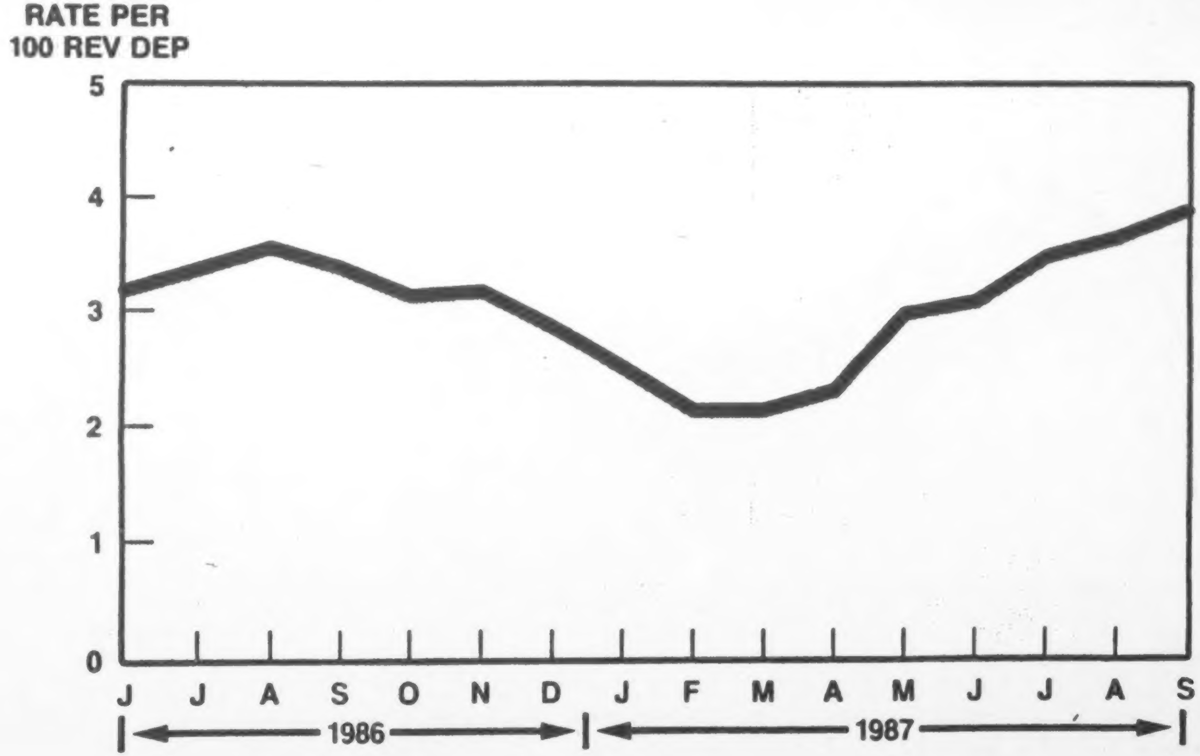


MECHANICAL CANCELLATION RATE



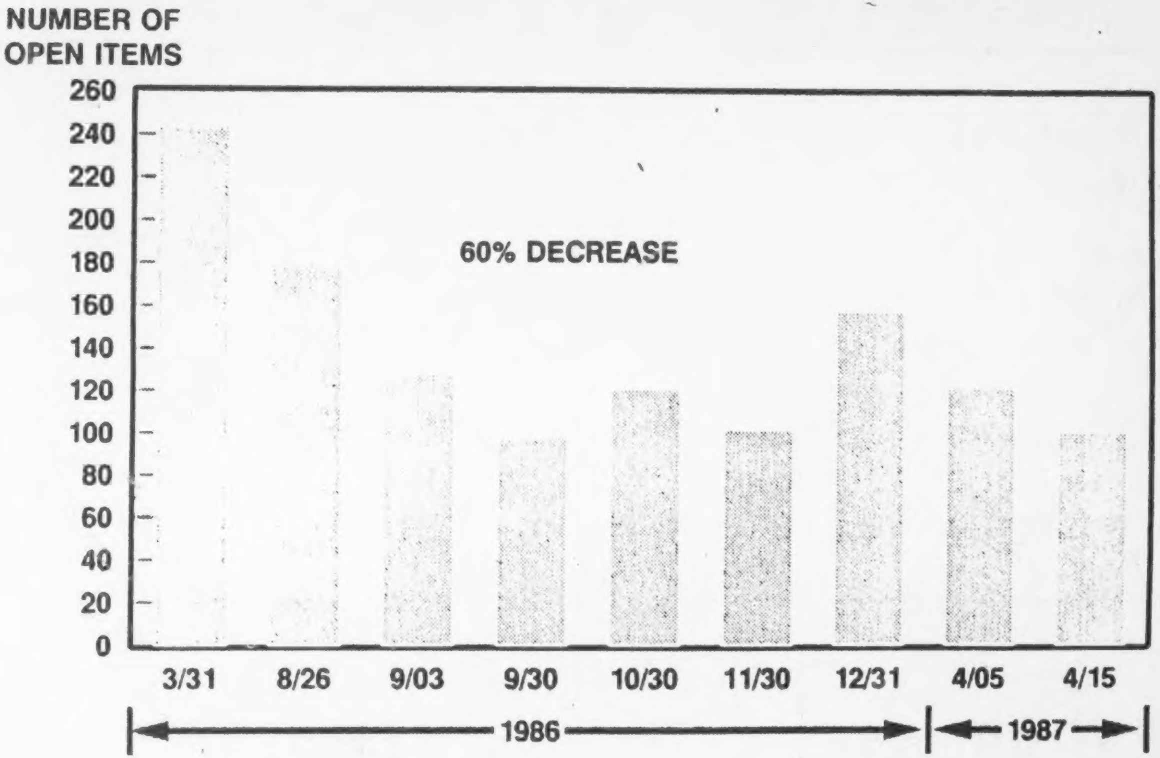
Appendix 15

TOTAL FLEET DELAY & CANCELLATION TREND



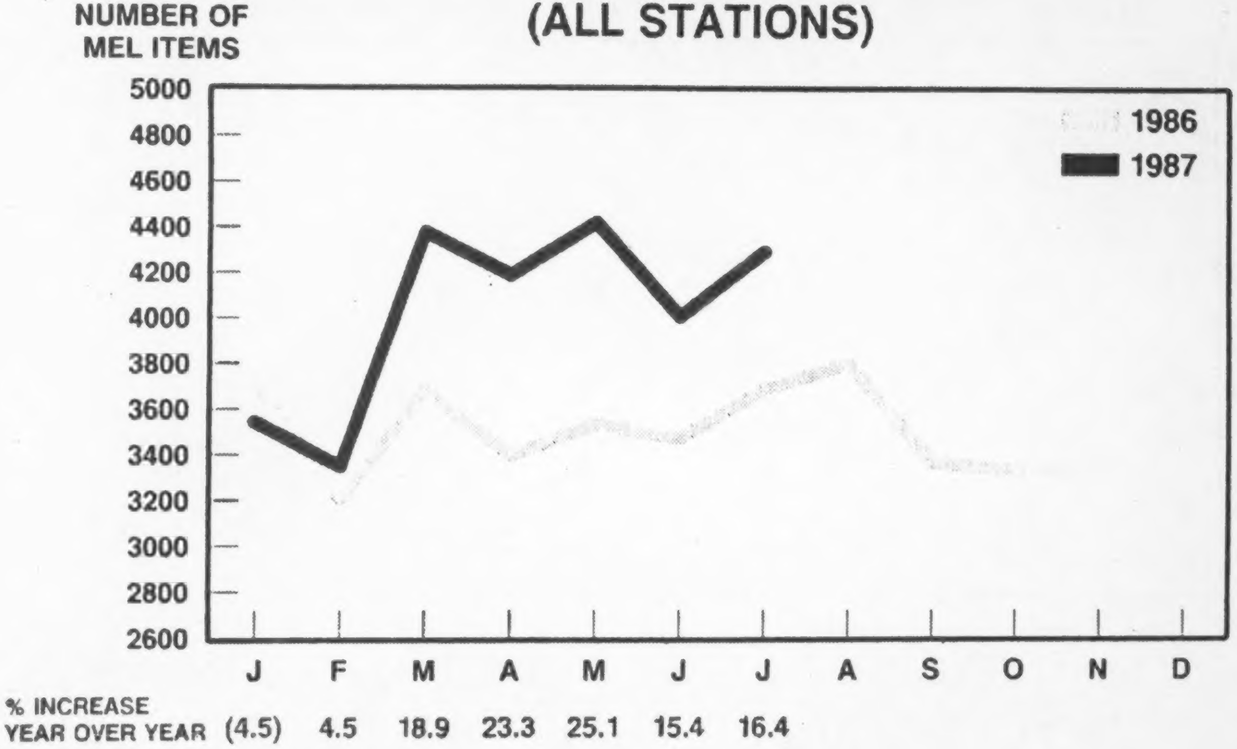
Appendix 16

TOTAL MEL OPEN OVER 5 DAYS



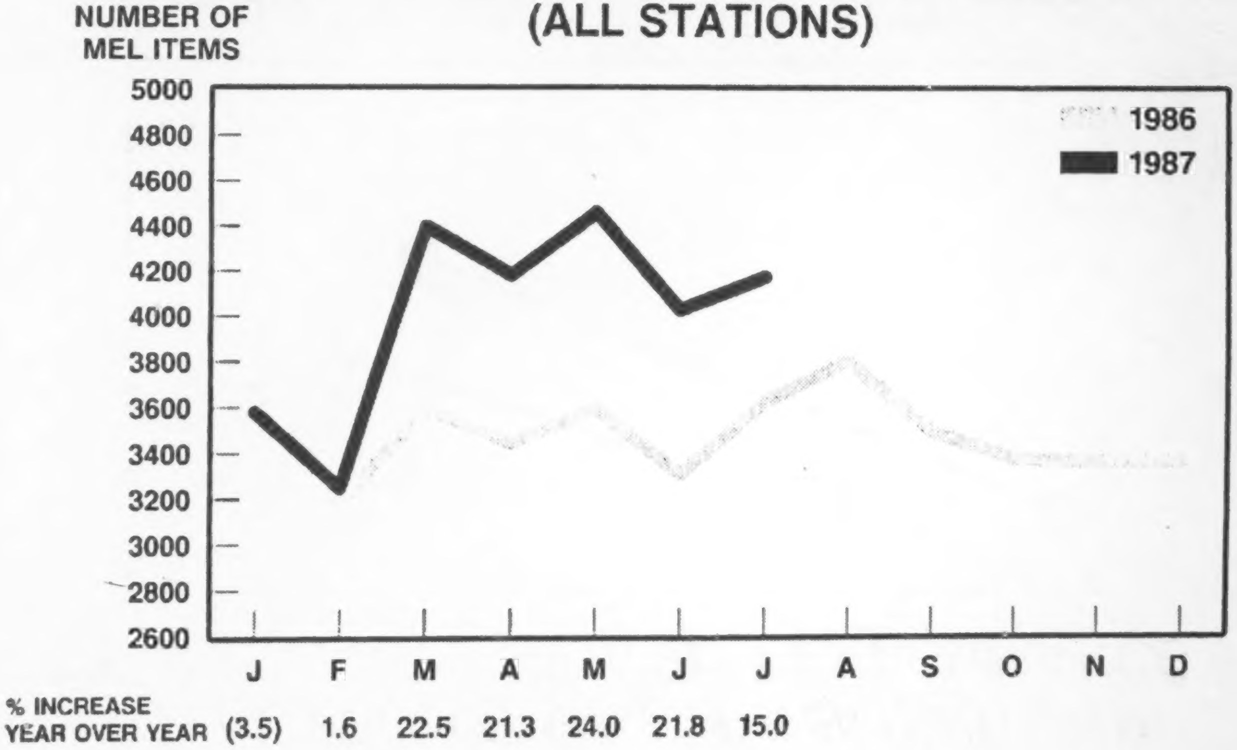
OPENED MEL ACTIVITY 1986/1987

(ALL STATIONS)

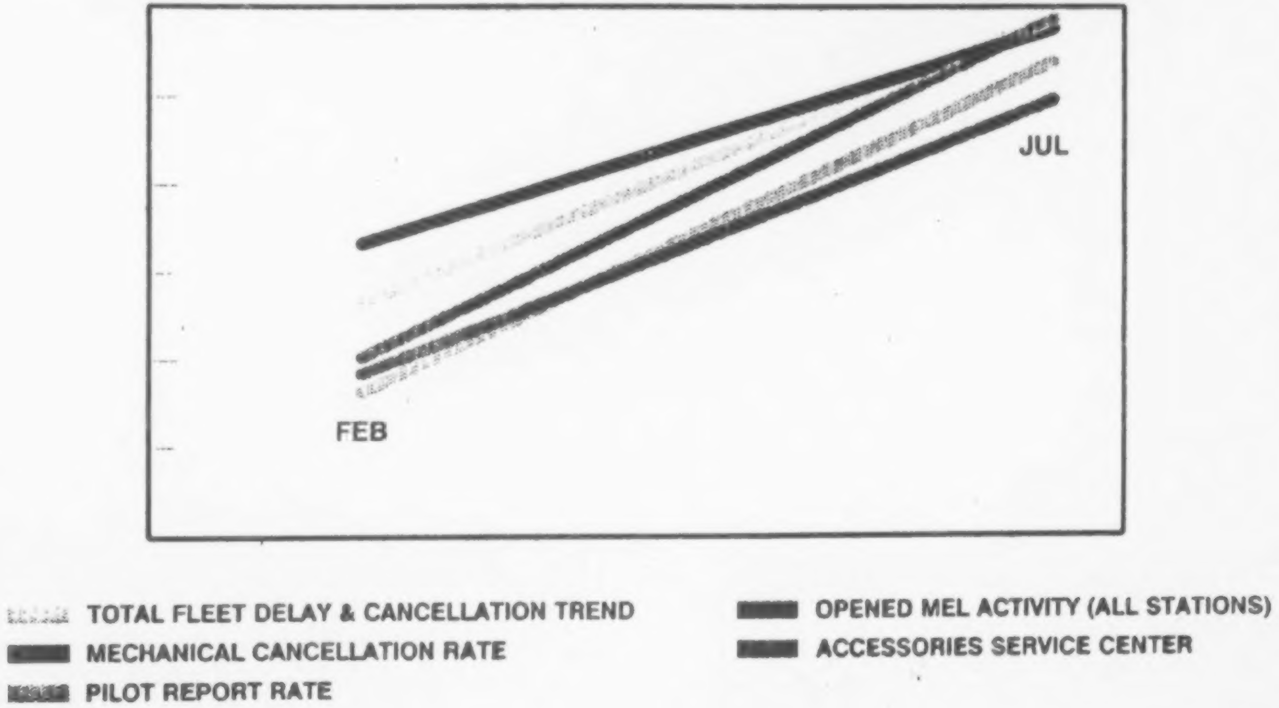


CLOSED MEL ACTIVITY 1986/1987

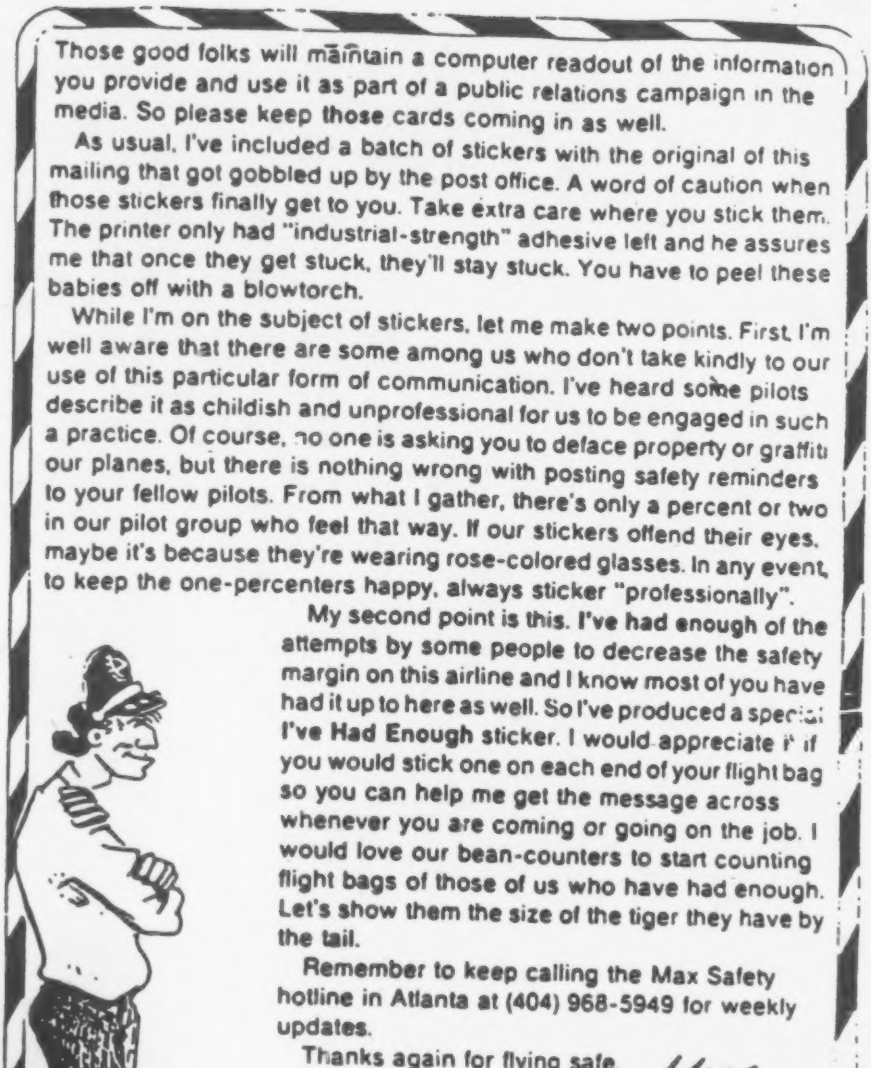
(ALL STATIONS)



TOTAL EFFECT OF ALPA SLOWDOWN ON EASTERN'S SYSTEM PERFORMANCE



Appendix 20



Those good folks will maintain a computer readout of the information you provide and use it as part of a public relations campaign in the media. So please keep those cards coming in as well.

As usual, I've included a batch of stickers with the original of this mailing that got gobbled up by the post office. A word of caution when those stickers finally get to you. Take extra care where you stick them. The printer only had "industrial-strength" adhesive left and he assures me that once they get stuck, they'll stay stuck. You have to peel these babies off with a blowtorch.

While I'm on the subject of stickers, let me make two points. First, I'm well aware that there are some among us who don't take kindly to our use of this particular form of communication. I've heard some pilots describe it as childish and unprofessional for us to be engaged in such a practice. Of course, no one is asking you to deface property or graffiti our planes, but there is nothing wrong with posting safety reminders to your fellow pilots. From what I gather, there's only a percent or two in our pilot group who feel that way. If our stickers offend their eyes, maybe it's because they're wearing rose-colored glasses. In any event, to keep the one-percenters happy, always sticker "professionally".

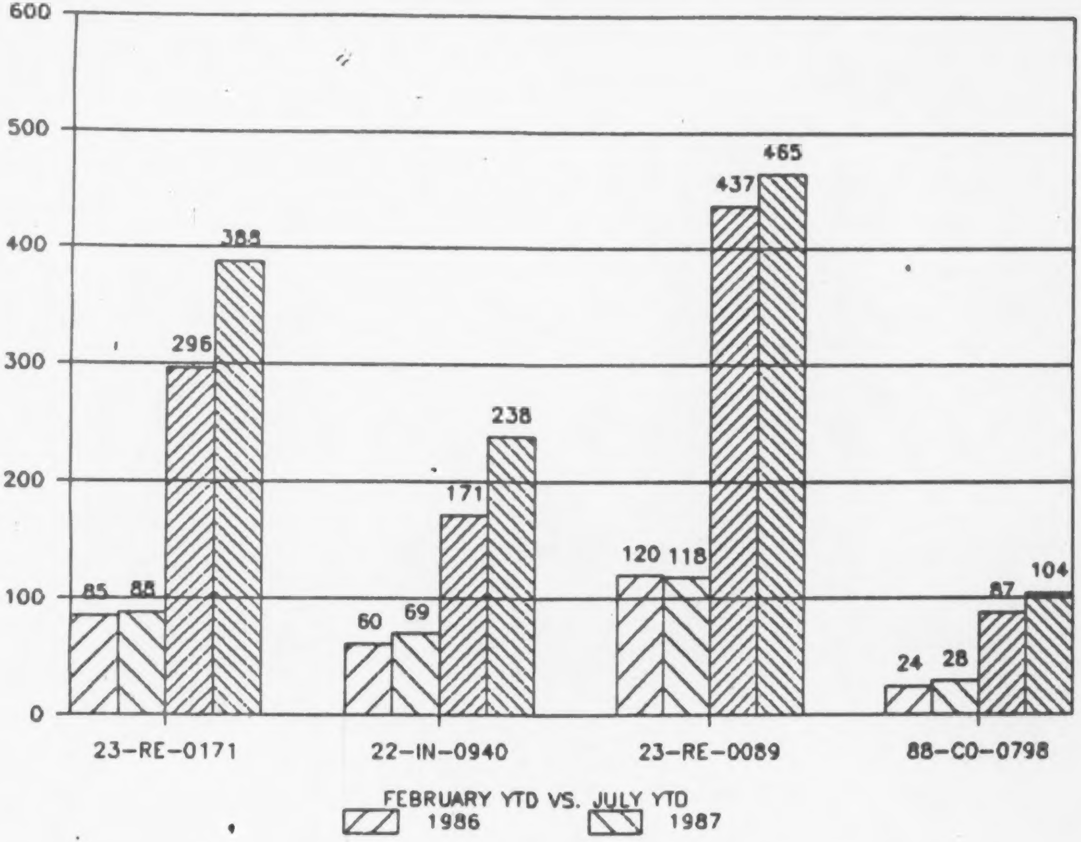
My second point is this. I've had enough of the attempts by some people to decrease the safety margin on this airline and I know most of you have had it up to here as well. So I've produced a special **I've Had Enough** sticker. I would appreciate it if you would stick one on each end of your flight bag so you can help me get the message across whenever you are coming or going on the job. I would love our bean-counters to start counting flight bags of those of us who have had enough. Let's show them the size of the tiger they have by the tail.

Remember to keep calling the Max Safety hotline in Atlanta at (404) 968-5949 for weekly updates.

Thanks again for flying safe. Max

P.S. By the way, the letter on the back page has just been sent to all members of the aviation community. The agencies on the pre-addressed postcards are actively seeking your help. Take the few minutes it takes to fill out the cards whenever something goes wrong on a trip and mail them in.

SELECTED MAX SAFETY BULLETIN PARTS



newsletter
AIR LINE PILOTS ASSOCIATION
EASTERN

Appendix 33

March 12, 1987

Dear Eastern Pilot:

There is a simple but important way that you can help determine our future as professional pilots.

As employees of Texas Air Corporation, our future is closely tied to the future of the entire TAC pilot group. As long as the rest of the TAC pilots are not organized and are provided substandard pay and benefits, TAC management can whipsaw the two groups in an attempt to keep down compensation levels for everyone.

The answer is to help them organise.

In recent months, dozens of pilots from Continental, Frontier, People Express, New York Air, and the other TAC subsidiaries have contacted us, asking for our assistance. They also have seen how management is playing one group against the other as the other carriers are merged together.

Some of the pilots who are contacting us are former ALPA members who know from experience why organization is necessary. Others are pilots who may have disagreed with decisions made by ALPA pilot groups in the past, but who are ready to put that behind them. They are willing to meet us halfway, and to recognise that only by working together can we move forward. To put it simply, the other TAC pilots cannot significantly improve their pay, benefits, and working conditions without us, and we cannot survive without them.

Your Eastern MEC is conducting a campaign to promote TAC pilot unity and to help the other TAC pilots organise. Every Eastern pilot can help by showing a spirit of unity in your contacts with other TAC pilots. Remember that it serves our interest as well as theirs to get to know one another, to listen to each other's point of view, and to organise for a future that works for everyone.

On January 27, we sent the enclosed letter to management, asking that the company extend official jumpseat access to all TAC pilots. The fact that management has refused even to answer our letter is evidence that they are afraid of TAC pilot unity. They want us fighting among ourselves, not working together.

We expect that, as a result of the TAC Pilot Unity Campaign, management will grant some improvements to pilots at the other TAC carriers while at the same time making new threats to all of us. These actions will be further proof of both what can be accomplished by organizing and why pilot representation is necessary.

I appreciate your support in this campaign. Our future depends on our success.

Sincerely,

Jack

John J. Bavis, Jr.
Chairman, EAL MEC

JJB/js

Appendix 23

AIRLINE INVENTORY COMPARISON
RATIO OF INVENTORY DOLLARS TO FLIGHT EQUIPMENT
(AS OF DECEMBER 31, 1986)

Carrier	Percentage
United Airlines	15.7
Eastern Air Lines	13.7
TWA	13.7
American Airlines	12.1
USAir	11.2
Delta Airlines	10.9

Appendix 24

EASTERN MAINTENANCE STATIONS
(Those maintenance facilities
where Eastern employs its own mechanics)

1985 (31)

Asuncion (Paraguay)
Atlanta
Bermuda
Boston
Buenos Aires (Argentina)
Charlotte
Fort Lauderdale
Guayaquil (Ecuador)
Houston
Kennedy
LaGuardia
La Paz (Bolivia)
Lima (Peru)
Los Angeles
Mexico City
Miami
Montreal
Newark
New Orleans
O'Hare
Orlando
Panama City
Philadelphia
Pittsburgh
Quito (Ecuador)
San Francisco
San Juan
Santiago (Chile)
Seattle
Tampa
Washington

1986 (39)

Asuncion
Atlanta
Bermuda
Boston
Buenos Aires
Charlotte
*Cleveland
*Detroit
Fort Lauderdale
Guayaquil
*Hartford/Springfield
Houston
Kansas City
Kennedy
LaGuardia
La Paz
Lima
Los Angeles
Mexico City
Miami
Montreal
Newark
New Orleans
O'Hare
Orlando
Panama City
Philadelphia
Pittsburgh
Quito
*Raleigh/Durham
*San Antonio
San Francisco
San Juan
Santiago
Seattle
Tampa
*Toronto
*West Palm Beach
Washington

1987 (39)

Asuncion
Atlanta
*Baltimore
Bermuda
Boston
Buenos Aires
*Cleveland
*Columbus
*Dallas/Fort Worth
*Detroit
*Greensboro/High Point/Winston Salem
Guayaquil
Hartford/Springfield
Kansas City
Kennedy
LaGuardia
La Paz
Lima
Los Angeles
Miami
*Montreal
Newark
New Orleans
O'Hare
Orlando
Panama City
Pensacola
Philadelphia
*Pittsburgh
Quito
*Raleigh/Durham
*Richmond
San Francisco
San Juan
Santiago
Tampa
*West Palm Beach
Washington

* Satellite stations.

October 7, 1987

newsletter
IR LINE PILOTS ASSOCIATION
EASTERN

Appendix 25

TO: All EAL Pilots
FROM: Jack Bavis, MEC Chairman
SUBJECT: Status Update
DATE: March 10, 1987

On February 26, we hand delivered to management a "Section 6 disclaimer" letter of agreement. It has been signed by Mr. John Adams, who also signed a similar letter for the I.A.M. This disclaimer allows us to discuss both management's and pilot's concerns without the risk of our contract being unilaterally "opened".

On February 27, I sent a copy of our proposed transition (fence) agreement to the I.A.M. and the flight attendants (T.W.U.). We anticipate a response from them the week of March 9th as to their position on a joint effort. We presented this proposal to management on March 9. Your Negotiating Committee will soon send you a copy of the proposed fence agreement.

On March 2, our Retirement Committee met in Washington, D. C., to discuss again the non-funding of our "A" Plan and the recent I.R.S. waiver of same. They also reviewed management's decision to change from a "certificate" ("A" Plan) to a "immunized bond fund" for our retirees, effective March 1. They did this despite contractual requirements which require our concurrence. We have filed grievances on this latest example of "bad faith" and a lawsuit on these issues has been initiated.

On March 10th, in Miami, there will be a meeting of all three unions to review with counsel the EAL/TAC lawsuit. We will also have ALPA General Counsel present to review this suit and to develop strategy to utilize the 20% preferred stock in a lawsuit. The key to this lawsuit is whether Eastern Air Lines got back a "fair market" value for the 6 - A-300's and/or the other assets management has moved, i.e., SODA.

We have received confirmation of our request for special funding from the ALPA "War Chest" from the rest of the member airlines in ALPA. The vote was 94% in favor. The programs we outlined in requesting that funding are now able to be implemented. Our TAC Pilot organizational drive is underway. There have been open meetings in Houston and Newark which were well attended. We were well received. More information on this issue will come under a separate mailing.

American Airlines' pilots just negotiated a new settlement. A synopsis of it will be sent out shortly. They increased their 'B' scale pilots 6% and gave a series of 2% increases to the 'A' scale pilots. The 'B' scale dies when a pilot becomes a Captain or with 10 years of service. This settlement marks an end to low salaried pilots for the industry as American starts a hiring program.

Here on Eastern, we have several hundred pilots who are considering leaving Eastern. Too many senior pilots are contemplating early retirement. Management would probably prefer them to leave. There are an equal number of junior pilots who are submitting applications to other airlines. Each Piedmont new hire class has 4 to 5 Eastern pilots enrolled. Many in both groups are waiting to see if our airline is going to be dismembered and our contract reduced to parity with Continental wages and work rules before they make up their mind to leave or not.

On Continental, management is planning to hire up to 900 pilots this year if it can find them. Many Continental pilots hope that somehow the merger with Eastern will provide increases in pay and a pension plan. Many are nervous about our intent towards them. We have a union, a war chest, lawyers and a relatively senior pilot work force. Some others would look forward to flying our wide-bodied equipment and to see us get defeated. We have Eastern pilots who want nothing to do with them and believe that we should never merge with them. It is time for us to look forward and realize that the fortunes of both pilot groups are better served if we combine ourselves into one cohesive group.

With this information as a background, here is the plan that I outlined to your local elected officers in February in Atlanta. Management has shifted 6 - A-300's and they plan to shift more. Most likely they will move wide-bodies as they are the highest cost in pay. It is the transfer of these assets that makes us vulnerable. Management would like more time to gain control over us and the rest of the TAC family. They still have to assimilate Frontier and Peoples' pilots into the Continental operation and all is not going smoothly. The I.A.M. contract is amendable in December 1987 and Charlie Bryan's election is scheduled for August of this year.

"The Plan"

1. Comprehensive organizing campaign of all Texas Air Pilots.

2. Offer I.A.M. & T.W.U. our proposed fence for a joint effort. Management has stated that they need all three groups to agree before they will give relief on the transfer of assets.

3. Deliver to management our transition agreement with or without the other union participation.

4. "If" management agrees to our transition agreement, then we will bargain for one contract (all TAC pilots) and one seniority list.

5. If there is one list, it makes no difference to pilots what color the aircraft are painted.

6. Use any and all means to achieve this objective:

    A. Lawsuits, public awareness through media, legislative initiatives, informational picketing, etc.

    B. Comprehensive max. safety campaign on Eastern.

    C. Job actions.

Conclusion:

We cannot wait for either management or the other unions. We must act now so as to secure our profession and our airline. We cannot "bargain" with management unless we have a fence agreement that prevents the transfer of assets, until there is one contract and one seniority list for all Texas Air pilots. If we expect the other pilots of TAC to join us and management to combine the lists and contract, then we will have to find innovative ways to reduce costs at least temporarily so as to get agreement.

In the meantime, continue to exercise your usual good judgment. We have a Contract - do not violate it. Be sure you are completely familiar with all company rules and directives. Do not break them - - don't even bend them. It's your career and your future at stake - - what price are you willing to pay to preserve them?

Please fill out the enclosed, pre-addressed postcard with your indication of support/non-support for this program.

Respectfully,

Jack

John J. Bavis, Jr.
Chairman, EAL MEC

JJBjr:db

1. I support the MEC plan / /

2. I do not support the MEC Plan / /

3. Comment: ______________________________

____

____

____

____

My name is Carl Frye and I am employed as a Captain with Eastern Air Lines. I have worked for the company for 33 years and am approaching 40 years as a pilot.

I hold an Air Transport Pilot certificate and possess type ratings in the DC-10, A-300, L-1011, B-727, DC-4, L-1049, L-749, and a multi-engine searating. I have never been charged with a violation of the Federal Aviation Regulations.

After hearing media reports during the last week that certain Eastern pilots had testified before the Congress that Eastern was an unsafe airline, I could no longer sit by and watch this ALPA-led farce without doing something about it. That is why I am here today.

Recent testimony before this Subcommittee suggests that I and fellow pilots are routinely intimidated to fly unsafe aircraft. I find this suggestion preposterous. On the contrary, I do suggest, however, that the dispension of this venomous information by certain members of my association results in an uninterrupted campaign of intimidation.

I have no problem maintaining my lifelong self-discipline profile. I have not in the past nor will I in the future operate any aircraft that I -- with nearly 40 years on the flight deck--feel completely comfortable with. To suggest otherwise would be a great disrespect to my years of service. Not so much to Eastern Air Lines alone, but to my very profession itself.

Quite frankly, I feel a certain amount of resentment in all this.

The individuals you see here represent several hundred years of dedication to the profession with an unblemished record. I suggest they represent the true image of the airline pilot.

Let us focus on Eastern for a moment. Our past record speaks for itself. It needs no defense. For years, Eastern Air Lines has maintained standards substantially above the industry requirement. This involves triple navigation systems, triple gyros, and triple communication systems to name just a few. The industry standard utilized by most carriers is two.

I am proud to have two sons on the flight deck of Eastern. The thought that I would expose them to an unsafe operation is not worthy of comment.

Over the years, I have been proud to be a member of the Air Line Pilots Association and its many contributions to safety. However, I firmly believe the present leadership and their tactics are counterproductive to the very heart of the item in question. An item foremost in the mind of every true professional. Safety.

It would be most interesting to see how rapidly these purported unsafe practices would disappear with an "ESOP." Can you project the potential of an airline wherein all signals are called by an employee-union owned airline? It is a condition under which I would probably leave the profession. The problem at Eastern is not one of safety. It is strictly strong unionism attempting to abrogate management's perogatives.

Carl O. Fry
Capt, DC-10
10/30/87

My name is Don Tadken. I have been a pilot for Eastern Air Lines for 27 years, of which 18 years has been as a captain flying DC-9s, B-727s and currently A-300s. The group of eight pilots you see here represents 255 years of flying experience, including 228 years with Eastern. This total contains more than 130 years of time as captain. As we have discussed among ourselves, none of us has been coerced or pressured into flying an unairworthy aircraft. After discussions with the appropriate maintenance, dispatch, or system control representative is complete, the decision is that of the captain. As a very respected, retired pilot once said, "The parking brake handle is the captain's best friend, and until he releases it, the airplane doesn't more." This is what we wear the four stripes for.

Over the years, on occasion, I have refused or delayed for maintenance aircraft legal by FAA and Eastern regulations, should flight in specific weather or other conditions warrant it in my opinion. Never have I been criticized or pressured because of it. In recent months, we have been requested to inform our chief pilot or his representative as to the details. This is accomplished with no pressure.

In recent months, we have had a definite and continuing improvement in maintenance. Certainly, in the past years we have had our problems at Eastern, but I have been impressed and appreciative of line maintenance's excellent efforts and improvements.

For 27 years I have tried to fly with "Max Safety". To me Max Safety is not related to thousands of demeaning and distracting safety stickers put by grown men on instrument panels in cockpits, toll booth machines and bathroom walls.

This is my own statement and I submit it sincerely.

D. L. Tadken
10/20/87

My name is Robert White. I am a captain on the B-757 for Eastern Air Lines. I have been an employee of Eastern since November 21, 1966. I have been a member of the Air Line Pilots Association since February 21, 1968, the first day that I was eligible to be a member after my probationary period at Eastern had ended. My relationship with ALPA terminated on September 25, 1987 due to disagreement with the policies and direction that ALPA leadership, nationally and especially at Eastern Air Lines, is trying to go at this point in time. For the 21 years that I have been a pilot with Eastern and almost 20 years that I have been a member of the Air Line Pilots Association, I have not been actively involved in the leadership of ALPA, nor have I been involved in the management of Eastern Air Lines.

In 1985, very concerned about the direction the company was going, I volunteered myself to ALPA to try to make some changes that would cause the company to change direction and secure my job and secure my future. In December of 1985, I was appointed to an ad hoc committee by the Master Chairman and during the months of December, 1985, January, February and March, 1986, worked almost full time for the Air Line Pilots Association in trying to gain some control over my future. Coming from a fairly sophisticated personal and professional background, I began to see some inconsistencies and questionable ethical philosophies that disturbed me. Thinking that I could make a difference, I aspired to a leadership position in ALPA.

As I became more involved with the methods of doing business within ALPA I became more convinced that it would be impossible to have a constructive, productive relationship with the Eastern MEC. Captain McClure's testimony before the House Subcommittee on Investigations and Oversight on Tuesday, October 20, 1987 is indicative of the manner in which ALPA likes to do business. He told the Subcommittee that it was not his intention at any point to drive customers away from Eastern Air Lines. And, yet on several occasions, Captain McClure and I have discussed the fact that he has no other ambition in life than to see Eastern Air Lines' relationship with Frank Lorenzo terminated or to see Eastern Air Lines destroyed.

Eastern has a lot of intimidation among the pilots at the present time. In my personal experience that intimidation does not come from the flight operations management, but rather it comes from the leadership of the Air Line Pilots Association. That leadership's main concern is their self-serving agendas and the attainment of personal goals, and does not include the pilots nor the betterment of Eastern Air Lines except as it leads to that attainment of their individual goals. ALPA leadership is lacking both in desire and ability to negotiate a satisfactory compromise to make Eastern Air Lines a strong company. And because of this lack of ability and desire, they have chosen to mix safety issues with labor relations to confuse the public. This is a detriment to all of the employees of Eastern Air Lines and the public.

As an employee of Eastern Air Lines and a professional with a 21 year record that is spotless, having no violations or accidents, I take great exception to the charges that are being made against my company by these people. Eastern Air Lines is a safe and professional airline and the employees that operate it on a daily basis are professionals, doing a professional job.

This statement is made out of a sincere desire to see Eastern Air Lines return to a place of preeminence in the industry and for no other reason. I called the Vice President of Flight Operations and volunteered my services and indicated my desire to appear in any type of hearings that would underscore my opinion of Eastern Air Lines.

20 Oct, 1987

Robert P. White

EASTERN AIR LINES INCORPORATED MIAMI INTERNATIONAL AIRPORT MIAMI, FLORIDA 33148

EASTERN

November 18, 1987

The Honorable James L. Oberstar
Chairman
Subcommittee on Investigations and Oversight
Committee on Public Works and Transportation
Rayburn House Office Building
Room 2351
Washington, D.C. 20515

Dear Representative Oberstar:

Attached are Eastern's responses for the record in the hearing held on October 21, 1987 relating to aircraft maintenance. I have indicated the page and line number of the transcript where the responses should be inserted. I have also responded to the inquiries of Mr. Molinari regarding Aircraft 863 which you raised in your letter of November 9, 1987.

1. Eastern's Maintenance Costs (Cents) Per Available Seat Mile 1983-1987 (Tr. 88, after line 2136; Tr. 92, after line 2237)

1983 -- 0.7189 (3)
1984 -- 0.6810 (4)
1985 -- 0.7181 (4)
1986 -- 0.8726 (1)
1987 -- 0.9095 (2) (through June)

Eastern's rank among the major carriers for each year, as reported on DOT Form 41, is indicated in parentheses.

2. Manual References that Authorize an Aircraft to Depart a Station With an Open "Shall Not Depart" MEL (Tr. 64, after line 1551)

Attached is page 6 of section 5-00-1 from Eastern's Engineering and Maintenance General Manual which authorized the deferral of MEL items for reasons of non-availability of aircraft, ground time, parts or manpower (Attachment A). Language similar to that contained in Attachment A has been included in Eastern's manuals for many years. This provision was deleted from the manual on August 14, 1987 and in its place Eastern proposed a revision to its MEL policy as indicated in Attachment B. The FAA Southern Region has requested that Eastern withhold publication of its revised policy pending the FAA Washington office's completion of a national MEL policy. In the interim, it remains Eastern's and the FAA's policy that "shall not depart" MEL items may be deferred due to the unavailability of parts.

3. Revised Supplement Sheet Procedure (Tr. 128, after line 3145

Eastern is in the process of implementing a serialized supplement sheet procedure. A copy of those procedures and the revised supplement sheets is provided in Attachment C.

4. Cost of Altitude Alert System and Usage Over a Period of Time (Tr. 212, after line 5253 and 5256)

The cost of an altitude alert system varies depending upon the aircraft type. At Eastern, its fleet of more than 80 DC-9 aircraft and more than 120 B-727 aircraft (except nine former B-727s purchased from Pacific Southwest Airlines) use the same system. The price for the major components of that system are as follows:

Part	EAL Part Number	Cost When Last Purchased
Altitude Alert Monitor	23-MO-60	$10,153.00
Barometric Altimeter	22-AL-12	$10,000.00
Air Data Computer	88-CO-798	$35,370.00
Terrain Warning Panel	23-PA-14	$ 825.00
Radio Altimeter Antenna	24-AN-67	$ 294.00

In addition, there are other elements of the system, such as wiring, circuit breakers and cannon plugs, which could cause the system to malfunction. I have not attempted to detail the costs of these items because they are not expensive compared to the major components. However, a reported malfunction is not always caused by a failure of one of the major components, nor will repair or replacement of the major components necessarily remedy a problem with the system.

As of November 10, 1987 Eastern had 13 serviceable spare altitude alert monitors (23-MO-60) and 19 unserviceable units (in the pipeline or repair process) for a total of 32 rotable monitors. The total number of monitors removed in the last 12 months was 501, which reflects a usage of approximately 42 such units per month. Eastern currently allocates the 32 spare monitors as follows:

BOS	1	MCL	1	MIA	5
EWR	1	PHL	1	DCA	1
PTY	1	ATL	9	FLL	1
MCO	1	LGA	1	ORD	1
TPA	1	JFK	1	Pipeline	6

5. Request of Representative Molinari concerning Aircraft 863 (Tr. 198, after line 4889)

After reviewing the ten logbook pages for Aircraft 863 presented to me by Representative Molinari at the hearing, I found it necessary to examine additional logbook pages to respond adequately to the inquiry.

In reviewing those logbook pages, I determined that Aircraft 863 experienced an intermittent problem from June 11, 1987 to July 23, 1987 that was not corrected until the radio altimeter antenna was replaced on July 23, 1987. During this period, the antenna (Eastern part No. 24-AN-67) was available at the following stations on Eastern's system:

-- ATL 6-11 until 7-12 and 7-19 until 7-23 when installed on 863
-- MIA 6-11 until 7-23
-- EWR 6-11 until 7-23
-- LGA 6-11 until 7-23
-- DCA 6-27 only
-- SJU 6-11 until 6-30
-- RDU 6-11 until 7-23
-- BDA 6-11 until 7-21
-- MCI 6-11 until 7-23
-- PHL 6-11 until 7-23
-- TPA 6-11 until 7-23

It is natural to ask why the antenna was not installed earlier. The answer is that the problem was not isolated to the antenna until July 23. Between June 11 and July 23 several parts and related systems were suspected of causing the problem. Several parts were replaced during the period in an effort to troubleshoot the malfunction. Several related systems were placed on MEL. I would like to review the history of those efforts to illustrate the difficulties we sometimes encounter in isolating problems on sophisticated electronic equipment.

On June 11, following a pilot report that the altitude warning erroneously sounded at 35,000 feet but that it returned to normal after pulling and resetting the circuit breaker, maintenance "reseated a cannon plug" and checked the altitude warning panel. The panel checked "OK."

Six days later (37 flights) on June 17, a similar pilot report occurred. Maintenance placed the altitude alert system on MEL.

On the following day, June 18, a crew reported that the "altitude alert system functioned normally" and the MEL was cleared.

Five days later (33 flights) on June 24, a pilot report stated, "Radar altimeter bouncing in flight causing GPWS false warnings." Maintenance placed the radio altimeter on MEL. The crew also reported an intermittent altitude warning light and maintenance placed the altitude alert on MEL.

On June 25, both the radio altimeter transmitter receiver and the altitude alert monitor were replaced, and both MELs were cleared. Later that same day a radio altimeter malfunction was noted and maintenance placed the radio altimeter back on MEL. The next day (June 26) a crew reported that the "radio altimeter works OK" and the MEL was cleared.

On June 28, seven flights later, the crew reported that the "GPWS activated twice at cruise. Suspect faulty radio altimeter." The system was again placed on MEL. On a later flight that day the crew reported that the "radio altimeter worked properly and the GPWS tested OK during pre-flight and after landing." The MEL was cleared.

On June 30 a crew reported "radio altimeter off flags at cruise" and a GPWS aural warning was received. However, after pulling and resetting the circuit breaker, both operated normally during the approach. The radio altimeter was placed on MEL and the GPWS was placarded "inoperative."

Between June 30 and July 9 there were no further crew reports of any problems with these components.

On July 9 a crew reported that the "radio altimeter cycles wildly during approach, the runway and approach display bobs up and down and it also causes MDA light to blink on and off." The crew pulled the circuit breaker.

On July 11, a crew reported that the altitude alert device had a loose thousands digit. The system was placed on MEL. Later that day the altitude alert MEL was cleared by replacing the monitor. However, no parts were available in Tampa to repair the radio altimeter.

The following day, July 12, in Atlanta, the captain logged "radio altimeter cycles in cruise." Maintenance responded by stating "no stock on the radio altimeter."

On July 14, the crew entered "per request of MCI MX regarding radio altimeter troubleshoot (1) both radio altimeters were equally affected, (2) both RA cycle at the same time once caused the GPWS to sound off at F.L. 200."

Later that day, the crew reported that the GPWS was inoperative since June 28. Maintenance noted that the item was on a previous MEL and stated "no 23TR28 (radio altimeter) this date in stock."

On July 16, the GPWS MEL and the radio altimeter MEL were cleared by replacing the radio altimeter. Later the same day, a crew reported that the radio altimeter worked fine until reaching 30,000 feet and then it set off the altitude alert. Maintenance put the system on MEL and noted that additional troubleshooting was needed because the altimeter had been changed.

On July 23, a crew noted that the GPWS would not test properly. Maintenance replaced the GPWS computer, but that did not fix the problem. The system was then placed on MEL. After the aircraft's next flight the radio altimeter and both radio altimeter antennas were replaced. The radio altimeter MEL and GPWS MEL were cleared. No problems occurred thereafter.

The history of Aircraft 863 demonstrates that Eastern mechanics were working diligently to isolate and correct the problems. During the period in question, Eastern replaced a radio altimeter transmitter/receiver, two altitude alert monitors, two radio altimeters, a GPWS computer and two radio altimeter antennas. Both the GPWS and the terrain warning system receives input from the radio altimeter. The intermittent malfunction of the radio altimeter antenna occasionally resulted in a GPWS malfunction or a terrain warning system malfunction, although some cockpit crews and maintenance personnel interpreted the problem to be associated with the altitude alert system. This occurred because the altitude alert system shares the same visual warning indicator with the terrain warning system (the terrain warning system also provides an aural sonalert output shared with the altitude alerting system).

As this case illustrates, it is not always easy to identify the cause of a malfunction which is intermittent in nature, especially when the malfunction can be attributed to several different, but interrelated aircraft systems, and the malfunction cannot be duplicated on the ground.

Company policy (as it existed on June 18, 1987), was followed when Aircraft 863 left Miami on June 18, 1987 with the ground proximity warning system and altitude alert system being deferred for repair because "no time was available to repair these items." While both of these systems are "shall not depart an airport where repairs or replacements can be made" MELs and Miami is an airport where Eastern can make these repairs, on June 18, 1987 the company's General Maintenance Manual still permitted the deferral of these repairs because "no time was available." (Attachment A).

For many years, company policy provided that the lack of manpower, the lack of ground time, or the lack of serviceable parts were proper reasons to defer the repair of a minimum equipment list item (except those that must be repaired before further flight, i.e., may not be operative for any period of time).

On August 14, 1987, the lack of manpower and lack of time were eliminated as legitimate reasons to continue an aircraft in service with a "shall not depart" MEL beyond an airport designated by Eastern as one where repairs to that aircraft can be made. In its place, Eastern proposed a revision to its MEL policy which is enclosed as Attachment B. The FAA Southern Region has requested that Eastern withhold publication of its revised policy pending the FAA Washington office's completion of a national MEL policy. In the interim, it is Eastern's and the FAA's policy that "shall not depart" MEL items may be deferred due to the unavailability of parts. As of November 13, 1987, only one of Eastern's open MELs were in the "shall not depart" category.

I hope this is responsive to the Subcommittee's inquiries. I would gladly supply any additional information at your request.

An identical letter has been sent to Congressman Clinger.

Sincerely,

Stephen J. Kolski
Stephen J. Kolski

SJK:arg
Attachments
cc: The Honorable Guy Molinari

(f) Part (or parts) the individual feels are required to correct the item.

NOTE: Not by EAL stock number, but by part nomenclature.

(g) If the corrective action will require any special tools or equipment.

(h) Approximately how long the individual feels it will take to correct the item.

(i) The physical location of the part in the aircraft. (If known).

NOTE: When the item contains a "▷" or ">" symbol, Tech Servies must assure that the dispatcher is involved prior to issuing the number.

(5) Advise MIADD and MIAMT by CODACOM, Using format "FORMEA".

- example -

```
FORMEA @QP MIADP MIADD MIAMT ...MD ...MH ...OC
.....
DATE.......         MINIMUM EQUIPMENT ASSIGNMENT REPORT
ASSIGNED C.I.  NBR................PER MIAMT..........
CONFIRMING TELCO WITH.............MIADD AT....(Z TIME)
A/C..........ON FLT...............
DISPATCHED ON MINIMUM EQUIP. WITH:
SYSTEM SEQUENCE NBR...............
FIRM CODE (IF ENTERED)............
REASON............................
Add any additional information or recommendation that
would be helpful in correcting the trouble.  Close
message with signature and depress transmit key.
```

C. Subsequent Correction of MEL/CDL Items.

(1) Aircraft Routing is responsible for assigning the correction of MEL and CDL items on each aircraft.

(2) The station assigned to correct a MEL/CDL item by Aircraft Routing will do so as designated unless correction is prevented by nonavailability of aircraft, ground time, parts, or manpower.

3. Procedure (Continued)

(f) Part (or parts) the individual feels are required to correct the item.

NOTE: Not by EAL stock number, but by part nomenclature.

(g) If the corrective action will require any special tools or equipment.

(h) Approximately how long the individual feels it will take to correct the item.

(i) The physical location of the part in the aircraft. (If known).

NOTE: When the item contains a "▷ " or " > " symbol, Tech Services must assure that the dispatcher is involved prior to issuing the number.

(5) Advise MIADD and MIAMT by CODACOM, Using format "FORMEA".

- example -

```
FORMEA @QP MIADP MIADD MIAMT  ...MD ...MH ...OC
....
DATE.....           MINIMUM EQUIPMENT ASSIGNMENT REPORT
ASSIGNED C.I.   NBR................PER MIAMT..........
CONFIRMING TELCO WITH..............MIADD AT.....(Z TIME)
A/C..........ON FLT................
DISPATCHED ON MINIMUM EQUIP.    WITH:
SYSTEM SEQUENCE NBR................
FIRM CODE (IF ENTERED).............
REASON.............................
Add any additional information or recommendation that would
be helpful in correcting the trouble.  Close message with
signature and depress transmit key.
```

C. Subsequent Correction of MEL/CDL Items.

(1) Aircraft Routing is responsible for assigning the correction of MEL and CDL items on each aircraft.

(2) (Deleted)

(Continued)

Attachment B

August 24, 1987

Mr. Addison Reynolds
Director South Florida FSDO
Federal Aviation Administration
P. O. Box 592015
Miami, FL 33159

Dear Mr. Reynolds:

This will acknowledge receipt (on August 18, 1987) and respond to your correspondence of August 14, 1987 concerning our meeting of August 13, 1987.

We appreciate your responding to our request to meet with us and share with us your thoughts concerning the deferral of those MEL items which "shall not depart an airport where repairs or replacements can be made".

Your letter of August 14, 1987 enclosed three pages of our Engineering and Maintenance General Manual. Currently, a manual revision is being distributed that deletes the language contained in paragraph C(2) on each of the pages you enclosed. Consequently, the language you feel may conflict with the intent of the FAA MMEL preamble has been deleted from our manual with an effective date of August 13 (2 pages) and August 14 (1 page) which was prior to the receipt of your letter.

In addition to the language deletions, we have developed revisions to the MEL guidance material in our E&MGM to meet FAA concerns.

To develop this policy we have focused on several factors, including but not limited to the following:

- the MMEL preamble language which states that "the basic purpose of the MEL is to permit operations of an aircraft with inoperative equipment within the framework of a controlled and sound program of repairs and parts replacement" [emphasis added]
- the MMEL preamble language which states that "unless otherwise specified in the remarks column, the FAA does not define 'where' or 'when' an inoperative item is to be repaired or replaced"
- the FAA-approved policies and practices currently in effect at other airlines comparable in size and route structure to that of Eastern

- o the realization that the MMEL does not utilize the phrase "maintenance base" or "maintenance station" and the fact that Eastern may position its own mechanics at certain airports and supply certain spare parts at those airports does not necessarily mean that all of these airports are those "where repairs or replacement can be made" [emphasis added]

- o the phrase "may not depart an airport where repairs or replacements can be made" directly infers that the MMEL recognizes there are some airports where repairs or replacements can be made and there are some where they cannot be made

- o FAR 121.105 which provides that each air carrier must show that competent personnel and adequate facilities and equipment (including spare parts, supplies and materials) are available at such points as are necessary...

- o FAR 121.105 which provides that "each certificate holder ...must have an organization adequate to perform the work" [emphasis added]

- o FAR 121.367 which provides that each certificate holder's program has competent personnel and adequate facilities and equipment

- o every airline must make arrangements to repair its aircraft at every point on its system whether through the utilization of its own employees or the employees of another organization. Consequently, it can be argued (but not successfully) that it is conceivably possible that "repairs or replacements can be made" at every airport whether Eastern has its own maintenance personnel or relies on those of other organizations.

- o Eastern's and the FAA's joint obligation to provide for safe and efficient air transportation

With these factors in mind, Eastern has determined (like other airlines) that there are certain airports for certain aircraft where Eastern has positioned adequate personnel and spare parts (and has adequate facilities) where it can and MUST make certain replacements and repairs before further flight. These stations will be designated in our manual and were selected on the basis of the following criteria:

- o those airports frequently scheduled to receive service by a particular aircraft type

- o the size of the fleet and its stage length

- allocation of certain spare parts and components
- the uniqueness of Eastern route structure, e.g., shuttle aircraft confined to three airports; the Atlanta hub operation, Eastern's South American service which usually return an aircraft to Miami on every other landing, etc
- the selection of a sufficient number of airports for each aircraft type to ensure that repair or replacement can be made within the framework of a sound and controlled program
- a desire that each aircraft be scheduled to transit a "no go" airport at least once, but probably several times each day

Therefore, we are prepared to issue the following revision to our Engineering and Maintenance General Manual.

C. Corrective Action for MEL/CDL Items

(1) Aircraft Routing is responsible for assigning the location where appropriate corrective action for a CDL item will occur.

(2) MEL items will be repaired/replaced in accordance with the contents in the remarks column in the approved minimum equipment list

a) if the MEL does not permit the item to be inoperative, it will be repaired/replaced prior to further flight.

b) If the MEL does not state where or when the inoperative item is to be repaired or replaced, it will be repaired or replaced at the earliest opportunity such action can be accomplished without disruption to normal operations. In this regard, Aircraft Routing shall be responsible for assigning the location where appropriate corrective action will occur but this shall not prevent such action from taking place at an earlier opportunity if conditions permit.

c) If the MEL provides that the item may be inoperative but it "shall not depart an airport when repairs or replacements can be made" (or similar phraseology), the item will be repaired or replaced at the earliest opportunity without disruption to normal operations but the item MUST be repaired or replaced prior to further flight from the following "No Go" airports unless parts are not available.

"No Go" Airports

	B-727	DC-9	B-757	A-300	L1011	DC10
ATL	X	X	X			
BOS	X	X	X	X		
LGA	X					
MIA	X	X	X	X	X	X
JFK	X	X	X	X	X	

Note (1): Insufficient ground time, workload on other aircraft, or unavailability of personnel on duty are not acceptable reasons for the failure to restore a "shall not depart an airport where repairs or replacements can be made" MEL at a "No Go" airport identified above.

Note (2): The only acceptable reason a "shall not depart an airport where repairs or replacement can be made" MEL item may be deferred is the temporary unavailability of the parts to make the repairs or replacements at that airport in which case repairs or replacements MUST be made at the next "No Go" airport where parts are available. In any case, the repair or replacement must be made within four calendar days unless no serviceable part is available anywhere in the Eastern system and continued flight is expressly approved by the Technical Services shift manager.

This policy conforms to the basic purpose of the MMEL, as set forth in the preamble. It is also a positive step by Eastern to clarify in black and white terms what, up until now, has been an issue clouded with a lot of gray.

Thank you for the courtesy extended to us on August 13, 1987.

Sincerely,

Stephen J. Kolski
Counsel Regulatory
Compliance and Staff
Vice President

cc: Floyd Kresge
Bob Moye
Billy Stephens
Ed Upton

Note: I expect a response shortly--in the meantime, all manuals are status quo. I'll advise.

bc: Joe Leonard

B. Install a placard in the cockpit on the Captain's instrument panel in clear view of the Captain prior to flight with a Configuration Deviation List part(s) missing. Use the pressure-sensitive Placard P/N 48-PL-0009. Enter on the Placard the ATA system and sequence number of the item shown on the CDL.

Example:

MISSING PART (S)
CLD NO. 54-20-01

A separate placard must be installed for each CDL item. (An aircraft may operate with more than one item on the CDL).

C. Placards/circuit breaker guards shall be removed when MEL/CDL conditions are corrected.

6. Correction of MEL/CDL Items

A. Aircraft Routing is responsible for assigning the location where appropriate corrective action for a CDL item will occur.

B. MEL items will be repaired/replaced in accordance with the contents in the remarks column in the approved minimum equipment list.

C. If the MEL does not permit the item to be inoperative, it will be repaired/replaced prior to further flight.

D. If the MEL does not state where or when the inoperative item is to be repaired or replaced, it will be repaired or replaced at the earliest opportunity such action can be accomplished without disruption to normal operations. In this regard, Aircraft Routing shall be responsible for assigning the location where appropriate corrective action will occur but this shall not prevent such action from taking place at an earlier opportunity if conditions permit.

E. If the MEL provides that the item may be inoperative but it "shall not depart an airport when repairs or replacements can be made" (or similar phraseology), the item will be repaired or replaced at the earliest opportunity without disruption to normal operations but the item MUST be repaired or replaced prior to further flight from the following "No Go" airports unless parts are not available.

F. "No Go" Airports

	727	DC-9	757	A-300	L-1011	DC-10
ATL	X	X	X			
BOS	X	X	X	X		
LGA	X					
MIA	X	X	X	X	X	X
JFK	X	X	X	X	X	

Note (1): Insufficient ground time, workload on other aircraft, or unavailability of personnel on duty are not acceptable reasons for the failure to restore a "shall not depart an airport where repairs or replacements can be made "MEL at a "No Go" airport identified above.

Note (2): The only acceptable reason a "shall not depart an airport where repairs or replacement can be made" MEL item may be deferred is the temporary unavailability of the parts to make the repairs or replacements at that airport in which case repairs or replacements MUST be made at the next "No Go" airport where parts are available. In any case, the repair or replacement must be made within four calendar days unless no serviceable part is available anywhere in the Eastern system and continued flight is expressly approved by the Technical Services shift manager.

Attachment C

PROPOSED E & MGM CH. 7 REVISIONS AS RELATING TO SUPPLEMENT SHEETS

7-31-1 Paragraph 7.1.

I. Handling of Aircraft Maintenance Log Supplement Sheet Items. Supplement Sheets are hereby defined as an extension of a specific logbook and page therein.

(1) To provide control for the use of supplement sheets for recording items generated during Maintenance other than "C" or higher level checks, the following procedures shall be adhered to:

(a) Person originating a supplement sheet shall make a logbook entry in the Item Information column on the current page stating "Supplement Sheet(s) issued."

(b) Person originating a supplement sheet shall also make an entry in the Aircraft Logbook Supplement Sheet Record including date, station, logbook page number, originator's Employee Number, and the serial number of the first sheet used.

(c) A supplement sheet tally (Form 14 MF 0010) shall also be issued and all supplement sheets used will be entered on the tally by serial number.

(d) When all items on all supplement pages are completed and tallied, the person tallying the last supplement sheet shall make the following entries in the Aircraft Logbook:

1 On the logbook page on which the originating person has entered "Supplement Sheet(s) Issued", an entry in the corrective action column must be made stating, Supplement Sheets completed", and enter Employee No. in "Accomp by" space.

2 On the Logbook Supplement Sheet Record (back of logbook), in the "Supplement Sheet Serial Numbers Used" column, an entry must be made indicating the actual Serial Number(s) of sheet(s) used and the Employee No. of person making the entry.

(e) Completed supplement sheets will be inventoried & stapled to the supplement sheet tally.

(f) All items on supplement sheets will be input into the OSIS System via FORTSUP or FORTSUV transaction.

(g) After OSIS input, the supplement sheets and tally will be mailed to Aircraft Records, MIAER, using the procedures outlined in E & MGM Chapter 7-31-1, Page 11, Paragraph 5. (3) (b) 4.

(2) In the event that open supplement items are not corrected prior to next flight, one of the following procedures shall be adhered to:

(a) All unaccomplished tasks must be transferred to the aircraft Maintenance Log/Performance Report and individual Maintenance Reference Numbers assigned to each open item.

NOTE: This does not preclude the requirement that all items affecting Airworthiness be corrected prior to next flight.

OR

(b) 1 All unaccomplished tasks shall be reviewed by originating station management (Foreman, General Foreman, or Manager) to ensure that open supplement items do not include Airworthiness, Minimum Equipment List (MEL), or Configuration Deviation List (CDL) items. All items affecting Airworthiness shall be corrected prior to next flight. MEL/CDL items shall be given individual maintenance reference numbers and entered in the logbook.

2 Transmit via CODACOM message a list of the open supplement items to Technical Services, MIAMT, including suggested corrective action(s) and required parts information (if applicable) for each item. The Technical Services supervisor will review the items, and, provided the requirements in paragraph (b)1 are met, He will then issue one control item against the supplements sheet(s) with open items.

3 One copy of the supplement sheet(s) with open items shall be stapled to the CI Summary Sheet in the Aircraft Logbook.

4 One copy of the supplement sheet(s) with open items shall be sent to Manager - Technical Services, MIAMT.

NOTE: Supplement Sheet(s) Original(s) shall be tallied and kept together as a unit, with the affected open items signed off as "Blanket CI (CI Number) assigned.

5 All items on supplement sheets will be input into the OSIS System via FORTSUP or FORTSUV transaction.

6 After the OSIS input, the supplement sheets and tally will be mailed to Aircraft Records, MIAER, using the procedures outlined in E & MGM Chapter 7-31-1, Page 11, Paragraph 5. (3) (b) 4.

7 Overnight stations will be assigned to work the priority items as indicated. In order to maintain the current status of the blanket CI, each item cleared must be reported to Technical Services via telephone conversation and a CODACOM message to MIAMT stating the corrective action taken. When all open Supplement Sheet items have been corrected, the completed sheet(s) will be mailed to Aircraft Records, MIAER, and a copy mailed to the Manager, Technical Services, MIAMT.

PROPOSED REVISION TO E & MGM 7-31-5, PRARGRAPH 1.D.

D. As an alternative, unscheduled maintenance may be recorded on Aircraft Maintenance Supplement Sheets (Form 14-MF-0916). Procedures detailing the use of these sheets must be followed as stated in E & MGM Chapter 7-31-1, Parargraph 7.1.

C. Delete paragraph C.

PROPOSED REVISION TO E & MGM 7-31-7, PARAGRAPH 1.B.

B. Repairs, adjustments and replacements specifically designed to improve or enhance passenger convenience do not have to be recorded unless a record of the discrepancy(s) is necessary for work continuity (e.g., shift change), or a special skill requirement. These include such items, not involved with safety, as painting, patching materials, replacing screws and fasteners, adjusting seat folding tables, etc. If a record is deemed necessary by Maintenance Supervision, the Aircraft Maintenance Supplement Sheet(s) (Form 14-MF-0916) shall be used. Procedures detailing the use of the sheets must be followed as stated in E & MGM Chapter 7-31-1, Paragraph 7.I.

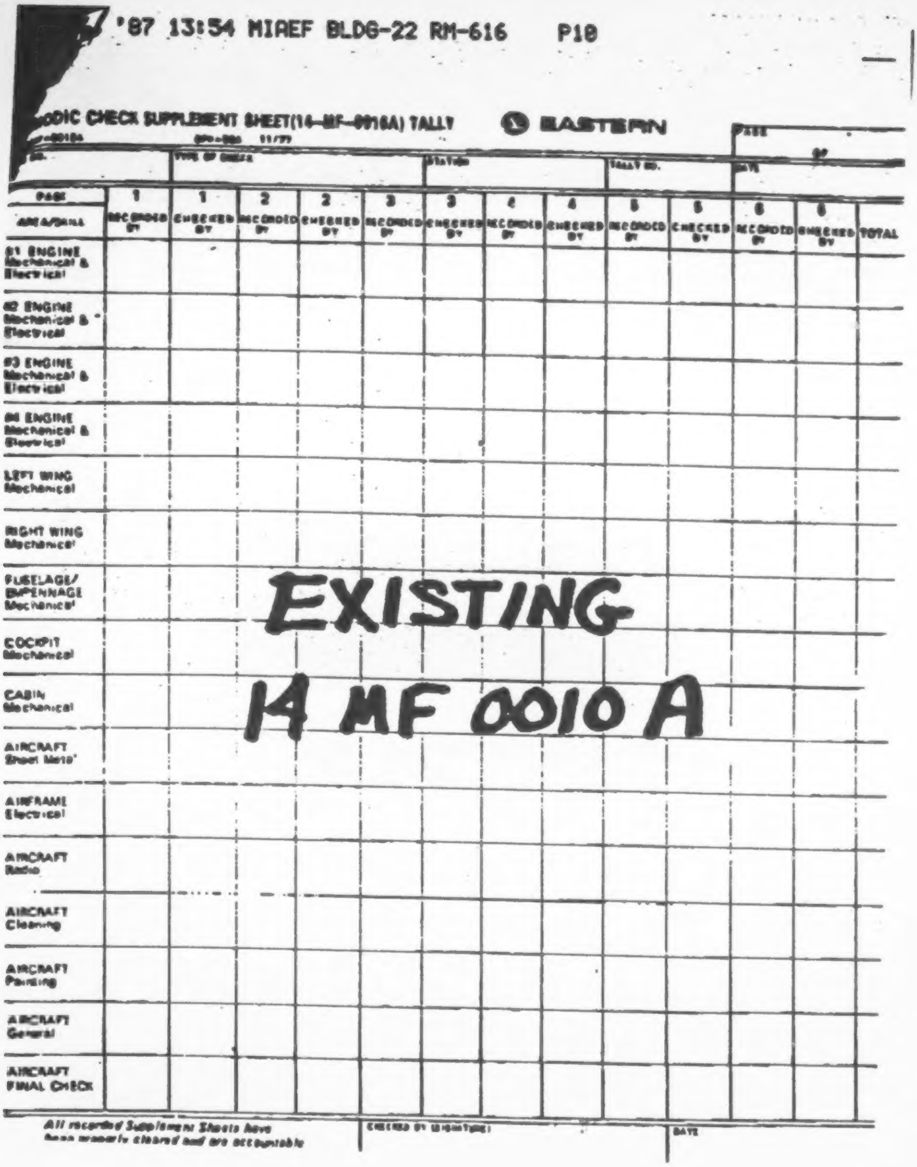
AIRCRAFT RECORDS RECEIPT AND HANDLING OF AIRCRAFT MAINTENANCE SUPPLEMENT SHEETS

1. Receives Aircraft Maintenance Supplement Sheets attached to Tally (Form 14-MF-0010). Inventory of sheets accomplished utilizing the Tally, then filed in holding file.

2. Receives completed Logbook. Normal review accomplished and Supplement Sheet Record removed from Logbook.

3. Logbook Supplement Sheet Record used to inventory Supplement Sheets and Tallys in holding file. All Tallys and Sheets associated with that Logbook then filed with the Logbook in the Aircraft Logbook File.

4. If, from the inventory accomplished in step 3, it is determined that a Supplement Sheet(s) is missing, an OSIS printout of the information on the missing sheet is obtained and shall serve as a substitute for the missing sheet(s) until such time that the original is located or the Logbook File is purged in accordance with established procedures.



'87 13:54 MIAEF BLDG-22 RM-616 P10

ODIC CHECK SUPPLEMENT SHEET(14-MF-0010A) TALLY EASTERN

11/77

NO.	TYPE OF CHECK				STATION				TALLY NO.		PAGE OF DATE		
PAGE	1	1	2	2	3	3	4	4	5	5	6	6	
AREA/SKILL	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	TOTAL
#1 ENGINE Mechanical & Electrical													
#2 ENGINE Mechanical & Electrical													
#3 ENGINE Mechanical & Electrical													
#4 ENGINE Mechanical & Electrical													
LEFT WING Mechanical													
RIGHT WING Mechanical													
FUSELAGE/ EMPENNAGE Mechanical													
COCKPIT Mechanical													
CABIN Mechanical													
AIRCRAFT Sheet Metal													
AIRFRAME Electrical													
AIRCRAFT Radio													
AIRCRAFT Cleaning													
AIRCRAFT Painting													
AIRCRAFT General													
AIRCRAFT FINAL CHECK													

All recorded Supplement Sheets have been properly cleared and are accountable	CHECKED BY (SIGNATURE)	DATE

EXISTING
14 MF 0010 A

06 '87 13:55 MIAEF BLDG-22 RM-616 P11

CHECK/REPAIR SUPPLEMENT SHEET (14-MF-0010A) TALLY

EASTERN

A/C NO.	TYPE OF CHECK	STATION	TALLY NO.	PAGE OF DATE

PAGE	1	1	2	2	3	3	4	4	5	5	6	6	
AREA/SKILL	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	TOTAL
ECHANICAL													
LECTRICAL													
HEET ETAL													
AB'N IER													
LEANING				EXISTING									
INT													

PAGE	7	7	8	8	9	9	10	10	11	11	12	12	
AREA/SKILL	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	RECORDED BY	CHECKED BY	TOTAL
CHANICAL				14 MF-0010 B									
ECTRICAL													
ET TAL													
BIN ER													
ANING													
NT													

All recorded Supplement Sheets have been properly cleared and are accountable as part of the work package.	CHECKED BY (SIGNATURE)	DATE

NOV 06 '87 13:56 MIREF BLDG-22 RM-616 P12

AIRCRAFT MAINTENANCE LOG SUPPLEMENT SHEET TALLY EASTERN

A/C NO	TYPE OF CHECK	CURRENT LOG BOOK/TC NO	STATION	[illegible]	PAGE OF DATE

EXTRA SUPPLEMENT SHEET SERIAL NO.	ISSUED BY	CHECKED BY	EXTRA SUPPLEMENT SHEET SERIAL NO	RECORDED BY	CHECKED BY
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16			32		

PROPOSED

14 MF 0010 C

All recorded Supplement Sheets have been properly cleared and are accountable as part of the work package	CHECKED BY (SIGNATURE)	DATE

NOV 06 '87 13:57 MIREF BLDG-22 RM-616 P13

FT MAINTENANCE SUPPLEMENT SHEET EASTERN

OPR 505 REV 1984

PAGE ___ OF ___

AIRCRAFT NO.	OFF FLIGHT DATE	CURRENT LOG SEQUENCE NO.	[illegible]	STATION

EXISTING

14 MF 0916 A

REPAIR ITEM DESCRIPTION	ATA NO.	EMPL OTTT NO. RECORDED BY	ACTION	PART NO. TRACKING NO. CHANGED ON SERIAL NO./OFF SERIAL NO.	[illegible]	ACCOMP BY (EMP. NO)	CHECKED BY (EMP. NO)
				P/N ON/OFF /		/	
				P/N ON/OFF /		/	
				P/N ON/OFF /		/	
				P/N ON/OFF /		/	
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				P/N ON/OFF /		/	
				P/N ON/OFF /		/	
				P/N ON/OFF /		/	

n Control Number may be carried on this form. Close out and transfer to Aircraft Log.
A signature is required in the "CHECKED BY" column for all RII items (Ref. EAMTM Chapter 7-80-2) and those items deemed to require a recheck by Aircraft Inspection, the Lead Mechanic or Production Foreman [illegible] for the aircraft.

ALL ITEMS CLEARED/SIGNED ___ /

06 '87 13:57 MIAEF BLDG-22 RM-616 P14

T MAINTENANCE LOG SUPPLEMENT SHEET

OPR 306 REV 1084

A/C NO.	OFF FLT.	DATE (m/d/y)	CURRENT LOG / PAGE NO.	STATION

PROPOSED

14 MF 0916 B

REPAIR ITEM DESCRIPTION	ATA NO.	RECORDED BY EMPLOYEE NO	ACTION	PART NO / TRACKING NO. CHANGED ON SERIAL NO. / OFF SERIAL NO.	MRS.	ACCEPT BY EMP. NO. / CHECKED BY EMP. NO.
				P/N ON/OFF /		/
				P/N ON/OFF /		/
				P/N ON/OFF /		/
				P/N ON/OFF /		/
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				P/N ON/OFF /		/
				P/N ON/OFF /		/
				P/N ON/OFF /		/
				ALL ITEMS CLEARED/SIGNED		/

[illegible]

signature is required in the "CHECKED BY" column for all RII items [illegible]

[illegible]

NOTE:

[illegible] 7-60 [illegible] and those items deemed to [illegible] the aircraft

AIRCRAFT LOGBOOK SUPPLEMENT SHEET RECORD
(REF EIMAM 7-31-1, PARA I)

AIRCRAFT NO. LOGBOOK NO.

DATE (M/D/Y)	STA	LOG PG. NO.	ORIGINATOR EMPL. NO.	SERIAL NO.(S) OF SUPPLEMENT SHEET(S) USED	EMPL. NO CONFIRMING ALL SHEETS COMPLETE

PROPOSED DECAL

AFFIX THIS DECAL TO HEAVY PAPER FLAP IN BACK OF LOGBOOK

EASTERN

September 1, 1987

Mr. Arthur Ricca
Aviation Safety Inspector
Federal Aviation Administration
Flight Standards District Office
2nd Floor, Civil Terminal Building
L. G. Hanscom Field
Bedford, MA 01730

Dear Mr. Ricca:

This correspondence concerns the August 3, 1987 statement of Mr. John D. King that pertains to maintenance performed on Eastern aircraft #228 on or about May 3, 1987 at Logan Airport in Boston, Massachusetts. That statement (a copy of which was provided to Eastern by a television reporter) contains many inaccuracies, including, but not necessarily limited to, the following:

1) The 6M entry appears on page 14 of logbook 51521, not page 16.

2) The 6M entry was made on May 1, 1987 not May 3, 1987.

3) The 6M entry reads "fuel leak at #2 engine aft pylon, upper drain tube" not "#2 engine pylon drain--line dripping fuel".

4) The corrective action clearing item 6M reads "pressurized fuel manifold, checks normal, OK for service" not "ran boost pumps, noted no pressure drops".

5) King's allegation that "the following day this item (item 6M) was excluded from 13 others entered in the computer records" is not true. As you know, most computer terminals can only access the computerized aircraft maintenance logbook entries for a period of 45 days. However, information older than 45 days is maintained in a computer file in Miami. I have requested, and received, a copy of the computerized entries in the computerized logbook for aircraft 228 for a portion of the month of May. A copy of that report is enclosed. Please note that all 15 items entered on May 1 and May 2 were included in the computerized logbook, including the 6M item.

In addition to the foregoing, we have researched the maintenance log entries for aircraft 228 subsequent to May 1 and have been unable to find any additional entry that in any way would suggest that a fuel leak existed at the #2 engine aft pylon upper drain tube after May 1, 1987.

Proper corrective action was taken in response to item 6M entered in logbook 51521, page 14 prior to that aircraft's subsequent departure from Logan International Airport.

Sincerely,

Stephen J. Kolski

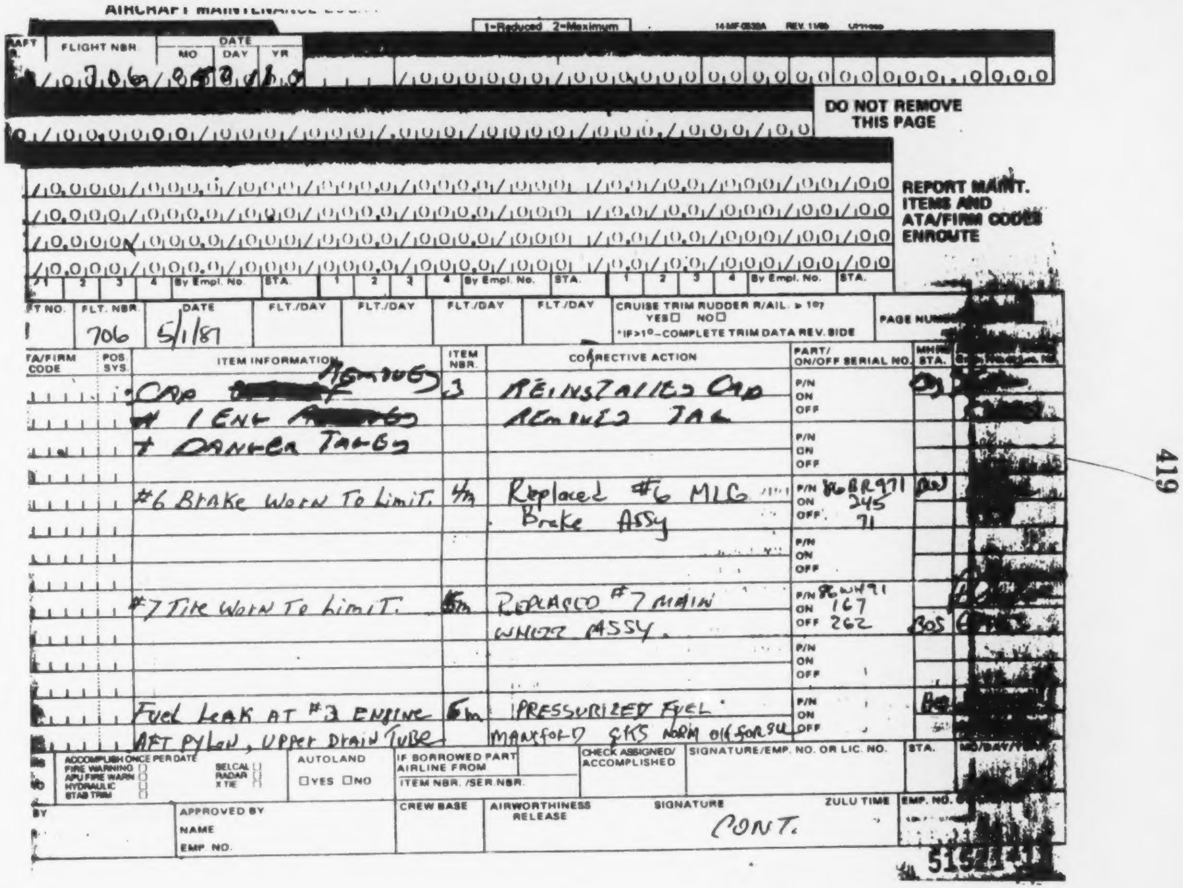
Stephen J. Kolski
Counsel Regulatory Compliance
and Staff Vice President

Enclosure

08/31/87

A300 PILOT LOG REPORTS - MAY 1987
AIRCRAFT = 228
PREPARED BY RELIABILITY ANALYSIS

A/C	ATA	FLGHT	DATE	STA	PAGE #	ITEM	ITEM INFORMATION DESCRIPTION	CORRECTIVE ACTION
228	22 23 29	0706	87/05/01	BOS	51521-13	01	TRIM PROBLEM FROM PAGE 12 RE OCCURRED. TRIM WILL NOT MOVE PAST [illegible] 2 ANU (WHILE TRIMMING DOWN) FLIGHT W	INSTALLED NEW YELLOW PI R OPS CK NML
	71-00-0M	0706	87/05/01	BOS	51521-13	02	#1 ENG COWL OPEN	CLOSED #1 ENG COWL
	17-00-00	0706	87/05/01	BOS	51521-14	03	CAP REMOVED #1 ENG AND DANGER TAGGED	REINSTALLED CAP REMOVED
	32-42-0M	0706	87/05/01	BOS	51521-14	04	#6 BRAKE WORN TO LIMIT	REPL #6 MLG BRAKE ASSY
	32-41-0M	0706	87/05/01	BOS	51521-14	05	#7 TIRE WORN TO LIM	REPL #7 MAIN WH ASSY
	28-11-1M	0706	87/05/01	BOS	51521-14	06	FUEL LEAK AT #2 ENG AFT PYLON UPPER D RAIN TUBE	PRESSURIZED FUEL MANIFOL FOR SERV
	12-25-0M	0706	87/05/02	BOS	51521-15	07	P65351 ASSGN	INSTALLED ASHTRAYS
	17-00-0M	0706	87/05/02	BOS	51521-15	08	N2[illegible] SPOILER CK	ACCOMP
	25-24-0M	0706	87/05/02	BOS	51521-15	09	P63169 OVERHEAD BIN DOOR HINGE 19C	REPL DOOR HINGE 19C
	74-21-0M	0706	87/05/02	BOS	51521-15	10	M63530 #1 ENG B IGN INOP	REPL #1 ENG B IGN LEAD
	17-00-0M	0706	87/05/02	BOS	51521-15	11	825DLF3301B ASSGN	ED ACCOMP SEAT BELT CK
	17-00-0M	0706	87/05/02	BOS	51521-16	12	N2301 ASSGN CLEAN MOVIE	ACCOMP
	17-00-0M	0706	87/05/02	BOS	51521-16	13	K32EH001Z-1 ASSGN	ACCOMP
	12-25-0M	0706	87/05/02	BOS	51521-16	14	P65758 LATCH BRKN C CABIN PROJ COMPT	REPL LATCH .
	57-00-0M	0706	87/05/02	BOS	51521-16	15	SEAL MISSING RT WING KGR FLAP	P67010 ASSGN MIANT SMIT



AIRCRAFT MAINTENANCE LOG

1=Reduced 2=Maximum

14-MF-0530A REV. 11/85

AFT NO.	FLIGHT NBR	DATE MO	DATE DAY	DATE YR
	706	05	01	8[illegible]

DO NOT REMOVE THIS PAGE

REPORT MAINT. ITEMS AND ATA/FIRM CODES ENROUTE

1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.	1	2	3	4	By Empl. No.	STA.

ACFT NO.	FLT. NBR.	DATE	FLT./DAY	FLT./DAY	FLT./DAY	FLT./DAY	CRUISE TRIM RUDDER R/AIL. > 1°? YES☐ NO☐ *IF>1°–COMPLETE TRIM DATA REV. SIDE	PAGE NUMBER
	706	5/1/87						

ATA/FIRM CODE	POS. SYS.	ITEM INFORMATION	ITEM NBR.	CORRECTIVE ACTION	PART/ ON/OFF SERIAL NO.	MHR STA.
		CAP [redacted] REMOVED #1 ENG [redacted] + DANGER TAGS	3	REINSTALLED CAP REMOVED TAG	P/N ON OFF	[illegible]
					P/N ON OFF	
		#6 Brake Worn To Limit.	4/m	Replaced #6 MLG Brake Assy	P/N 86BR971 ON 245 OFF 71	[illegible]
					P/N ON OFF	
		#7 Tire Worn To Limit.	5m	REPLACED #7 MAIN WHEEL ASSY.	P/N 86WH91 ON 167 OFF 262	BOS
					P/N ON OFF	
		Fuel Leak At #3 Engine AFT Pylon, Upper Drain Tube.	6m	PRESSURIZED FUEL MANIFOLD CKS NORM OK FOR 9U	P/N ON OFF	[illegible]

ACCOMPLISH ONCE PER DATE	AUTOLAND	IF BORROWED PART AIRLINE FROM	CHECK ASSIGNED/ ACCOMPLISHED	SIGNATURE/EMP. NO. OR LIC. NO.	STA.	MO/DAY/YR
FIRE WARNING ☐ APU FIRE WARN ☐ HYDRAULIC ☐ STAB TRIM ☐ SELCAL ☐ RADAR ☐ X TIE ☐	☐YES ☐NO	ITEM NBR. /SER.NBR.				

BY	APPROVED BY	CREW BASE	AIRWORTHINESS RELEASE	SIGNATURE	ZULU TIME	EMP. NO.
	NAME EMP. NO.			CONT.		

515[illegible]

2 Fremont Rd.
Chester, N.H. 03036
Aug. 15, 1987

Dear Mr. White,

Outlined below is an account of an incident which I feel is indicative of the problems at Eastern Air Lines, problems which have only recently been brought to the light of day. It is already a matter of record in that I filed a grievance through the International Association of Machinists and Aerospace Workers against the supervisor involved for certain contract violations connected with the incident.

On Monday, April 1, 1985 while working the afternoon shift at Logan Airport I was assigned (along with two other mechanics) to accomplish a general inspection, known at Eastern as "Layover Service Check", on Airbus A-300 aircraft #221. This type of check is normally assigned to overnighting aircraft because the servicing and maintenance involved can be time consuming. However, since this aircraft was scheduled to fly the "Moonlight Special" low fare passenger/freight operation, Eastern decided to assign an entire maintenance crew, rather than the normal one or two mechanics, to accomplish the overnight in three hours so the aircraft could be dispatched at 2230 Eastern Standard Time.

Unfortunately, our crew was reduced to three in number through the attrition of overlapping days off and the manpower requirements of the system. The only other mechanic assigned to our crew that evening was re-assigned to another crew to assist in another area of the terminal operation.

With only three mechanics (none of whom, as I recall, had ever been trained on this aircraft type) and three hours we managed to complete the inspection, but were left with numerous discrepancies discovered during its course. These were noted in maintenance log number 34619 pages 31, 32, 33.

Many of the discrepancies were minor in nature or required only routine servicing and were handled and cleared, though only through breakneck effort.

There were, however, two discrepancies which demanded attention and received none due to the intervention of supervision. While my notes are not absolutely specific as to the page number, I believe they were entered on page 31 of log 34619 and are as follows:

(A) Forward cargo door aft pallet latch will not stay down when unloading cargo

(B) Green system return filter bypass indicator popped

These two discrepancies were cleared in the maintenance log by Maintenance Foreman Joe Gall as follows:

(A) Pallet latch discrepancy--
"Cycled latch. Checks OK"

(B) Green system discrepancy--
"Reset button. Checks OK"

Regarding the pallet latch, a ramp serviceman working the aircraft told me that this latch made it difficult (and hazardous) to unload the aircraft because it would have to be held down by hand during the loading and unloading operation exposing the operator to injury from moving cargo containers.

This latch was cycled to check it. However, it did NOT check OK. It was still inoperative when Mr. Gall signed it off in the log. There were no warning placards installed. And there was (to my knowledge) no effort made to have the problem repaired at another maintenance station.

As to the Green system filter--The Layover Service Check specifically requires inspection of the hydraulic systems' return filter clogged (or bypass) indicators. There are three systems: Green, Yellow and Blue, and one return filter for each system. When the indicator button protrudes from its case it is an indication of a clogged filter and is a signal for further investigation to ensure there has been no failure of system components or contamination of system fluid. The A-300 Maintenance Manual chapter 29-00-00 page 310, item (2)(a) "Checking of clogging indicators" states:

> "- indicator in = filter in good condition
> "- indicator protruding = filter clogged.
> "If an indicator is protruding...it is necessary to check the filter element in order to determine the causes of contamination and also whether it is necessary to reclaim system fluid totally or partially."

Mr. Gall found it expedient to ignore procedure in the interest of dispatching the aircraft on schedule, and to clear the log entry by resetting the indicator without checking the filter for contamination.

With the discrepancies thus "cleared" Mr. Gall signed the Airworthiness Release and dispatched the aircraft, questionable hydraulic system and damaged latch not withstanding.

I want to state here that, in my experience, this incident was neither isolated nor unusual, nor is Mr. Gall unique in action or attitude. On that same evening another foreman on duty indicated to me that he was prepared to "sign off" everything we had written up in the interest of schedule. And on the following evening yet another supervisor told me he didn't care what we wrote up, or how much, as long as we didn't leave him with anything that would "kill" the airplane. The discovery of problems that can't be eliminated with a pencil are frowned upon.

I hope this information will be of some aid to you.

Yours truly,
Leland C. Floyd Jr
Leland C. Floyd, Jr.

(603) 887-3152

2 Fremont Rd.
Chester, N.H. 03036
Oct. 20, 1987

Dear Congressman Oberstar,

I am writing to voice my concern about airline safety and to lend credence to the allegations of John King, a mechanic fired by Eastern Air Lines for charging them with slipshod maintenance.

I have been an Eastern mechanic since 1973, and my introduction to the Eastern attitude came early. Within the first three months of my employment I was warned by a maintenance supervisor that I was "going to get myself in trouble" by writing discrepancies in the aircraft maintenance log. I had found a damaged wing fitting on a DC-9 aircraft and upon telling this supervisor of the problem, he told me to forget it and not tell anyone. When I informed him I had already entered it in the log he became agitated and made the above mentioned remark. While the damage in this instance turned out to be insignificant (it was deferred for repair at a later date) what is significant is the attitude. It is typical of Eastern management.

In the years since 1973 I, as well as many of my co-workers, have been intimidated , coaxed, browbeaten, and threatened for following the letter and spirit of the Federal Air Regulations and Eastern's own maintenance procedures. It would appear that Eastern considers these procedures and regulations as nothing more than a "cover", a false front to show the Federal Aviation Administration that they are in compliance. While the FAA sees no further than the paperwork, Eastern uses its "cover" as a license to fly aircraft which have not been maintained up to standard.

Initially I thought perhaps the 1973 incident was isolated, and confined to the management at LaGuardia Airport where it occured. It is not.

I have made a habit of keeping notes, rather like a diary, of the aircraft I work on and incidents which occur at work. These notes are filled with instances of Eastern's abuse of the system. An example of this is a meeting on Feb. 7, 1980 in which the (then) Boston Maintenance Manager, H.H. Andreas, told the members of my crew that we were "over-maintaining" our aircraft. A crack had been found in a doorframe of DC-9 aircraft #944 by one of our crew members on Jan. 26, 1980. The location and nature of the crack required the grounding of the aircraft until repairs were made, but only, he told us, because it was written in the logbook. He told us he knew the crack was there, that Miami Engineering knew it was there, and they had scheduled it for repair at the next heavy inspection in 140 flight hours. When we asked him why he didn't simply sign off the log and defer the repair, he told us it was because it was ILLEGAL, and once it was made a matter of record the repair had to be made. They knew it was illegal, but kept the aircraft in service as long as there was no chance that the FAA would discover it. He went on to say that we were looking too closely at the aircraft we inspect and finding too many discrepancies. The drift of the meeting was to do our inspections, "but don't find anything wrong," especially something that would put the aircraft out of service. In the seven years since that meeting I have heard similar statements from a number of supervisors.

All too often I have witnessed maintenance being performed with a pencil rather than a wrench; maintenance signed off as accomplished in the maintenace log, but never done. I have enclosed a copy of a letter to William White, FAA New England Regional Manager, in which I outlined an incident indicative of "the Eastern Way." As I indicated to Mr. White the incident, in my experience, is neither isolated nor unusual.

Airline accidents are few and far between, but in my opinion this is a credit to the manufacturer not the airline's maintenance. With mechanics urged (with veiled threats of retribution) to do cursory rather than close inspections, to ignore rather than call attention to problems, to maintain schedule at all cost, the safety of the flight crews and the public is at risk, left with only redundancy of systems and the inherent stength of manufacture as safeguards.

Many of us have been in a constant running battle with management, trying to do things the right way rather than the Eastern way. I have been fortunate enough to work for some of Boston Maintenance's more reasonable supervisors and have managed to avoid being fired, suspended, or severely reprimanded for going by the book. But the threat is always there. While it is difficult to fire someone for following company procedures there are always ways for management to find a reason, even if it's a "trumped up" charge. Once fired, attempting to get reinstated is a long drawn out process and places extreme hardship on self and family. This alone is enough to make many of us bow to the pressure, to accept the "Eastern Way," and to remain silent in the face of blatant violations. John King is an example of what can happen when you buck the system. And I believe his discharge was a message to other employees to remain silent or suffer the same consequences.

We need help before neglect leads to disaster. We need a stronger, more vigilant FAA. Airlines (at least Eastern) can't be trusted to police themselves. When an employee attemts to do the policing we have a David and Goliath situation, and David is without his sling. There must be made available a means for employees to report safety violations without placing themselves in jeopardy. The current "Safety Hotline" doesn't seem to be the answer.

I urge you to use whatever means available to impress upon Eastern and all other airlines that they MUST abide by the FAR's; they MUST adhere to their own manuals and procedures;

they MUST permit their mechanics to do their jobs to the best of their ability, by the book, without blinders, without handcuffs, and with wrenches, not pencils.

I must add in closing that since John King was fired and the FAA, under pressure of publicity, has increased its presence and scrutiny, the job of maintaining Eastern's fleet to manual specifications has become markedly easier. The tendency of management to question log entries by mechanics and to coerce them into circumventing procedure has diminished significantly. I am afraid, however, that if the storm is allowed to blow over without a permanent solution it will be business (and non-maintenance) as usual.

Yours truly,
Leland Carter Floyd, Jr.
Leland Carter Floyd, Jr.

NORTHWEST
NORTHWEST AIRLINES, INC.
900 17TH STREET, N.W. • WASHINGTON, D.C. 20006 • USA • (202)887-5836

PAUL SCHOELLHAMER
VICE PRESIDENT
GOVERNMENT AFFAIRS

October 22, 1987

Honorable James L. Oberstar
U.S. House of Representatives
Washington, D.C. 20510

Dear Mr. Chairman:

At yesterday's hearing of the Investigations and Oversight Subcommittee, a question was posed by Mr. Rowland regarding the portion of total carrier operating expenses devoted to maintenance. The following are that data for Northwest Airlines:

Aircraft Maintenance as a Percent of Total Operating Expense

3Q 1981 - 2Q 1982	7.2 %
3Q 1982 - 2Q 1983	7.8 %
3Q 1983 - 2Q 1984	8.3 %
3Q 1984 - 2Q 1985	7.7 %
3Q 1985 - 2Q 1986	8.0 %
3Q 1986 - 2Q 1987	9.9 %

If we may be of further assistance, please do not hesitate to contact me.

Sincerely,

Paul Schoellhamer

cc: Honorable J. Roy Rowland

NORTHWEST
NORTHWEST AIRLINES, INC.
900 17TH STREET, N.W. • WASHINGTON, D.C. 20006 • USA • (202)887-5836

PAUL SCHOELLHAMER
VICE PRESIDENT
GOVERNMENT AFFAIRS

October 26, 1987

Honorable Norman Mineta
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Mineta:

In the hearing of the Investigations and Oversight Subcommittee on October 21 regarding airline maintenance, you asked whether the labor disagreements at Northwest Airlines over the past year indicated that merger Labor Protective Provisions (LPP's), such as the Allegheny-Mohawk LPP's, should have been agreed to or imposed on our 1986 merger with Republic Airlines. I take this opportunity to respond more fully to your question.

As you know, Allegheny-Mohawk-type LPP's contain essentially two elements: a procedure for handling disputes about seniority integration, and a series of defined payments in the event of post-merger workforce contraction (e.g. layoffs, furloughs, reduced hours, etc.). Your question is whether either of those LPP elements would have addressed or helped remedy any of our disagreements with the IAM.

First of all, with regard to seniority integration, there is no disagreement with the IAM regarding seniority integration at Northwest. More then a year ago we included in our offer to the IAM the position that we would accept whatever seniority integration method they wanted to include in an agreement, and that offer remains on the table today. Obviously we have other disagreements with the IAM, but seniority integraiton is not at issue. Nor is there any indication that seniority integration is an issue within the IAM.

Incidentally, this is a very different situation from that involving the pilots, where seniority is a significant issue between pilot groups, and where the seniority integration process is moving very slowly. However it is also noteworthy that the same seniority integration procedures as are in Allegheny-Mohawk LPP's are being employed in the pilot situation, demonstrating that LPP's do not assure quick and amicable resolutions to seniority integration issues where they do exist.

Secondly, with regard to payments in the case of workforce contractions, this element of LPP's has been irrelevant to our post-merger experience since our workforce has expanded following the merger, not contracted. For example, as we testified a the hearing, we have increased our mechanic workforce by 6% from mid-1986 to mid-1987.

Clearly questions of how to handle workforce contraction have not been the cause of our IAM disagreements over the past year.

Our disagreements with the IAM have had to do with the normal negotiation of new contracts to replace existing contracts which have reached their amendable dates. Nothing in Allegheny-Mohawk LPP's addresses, remedies, or is relevant to those disagreements.

There is nothing unusual about that. Merger LPP's address only a narrow slice of all the possible causes of labor-management disagreement. Therefore, where LPP's have been agreed to or imposed, they rarely prevent disagreements from occuring. Just one such example was the acquisition of Continental by Texas Air in 1981. As you well know, that acquisition was followed by considerable labor unrest., despite the fact that Allegheny-Mohawk LPP's were in effect.

Clearly it cannot be said that labor peace is assured by LPP's, or that where labor disagreements exist they do so because LPP's are not in effect. Certainly at Northwest the presence or absence of merger LPP's would have been irrelevant to our disagreement this past year with the IAM.

In order that the Subcommittee's hearing record will be complete on the issue you raised, I am also forwarding a copy of this letter to the Subcommittee with the request that it be included in the hearing record.

If I may be of further assistance, please do not hesitate to contact me.

Sincerely,

Paul Schoellhamer

Paul Schoellhamer

cc: Chairman Oberstar

NORTHWEST
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PAUL SCHOELLHAMER
VICE PRESIDENT
GOVERNMENT AFFAIRS

November 23, 1987

Hon. James Oberstar
Chairman
Subcommittee on Investigations and Oversight
Committee on Public Works and Transportation
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman,

Enclosed is our response for the record to several items raised in your Subcommittee's hearing of October 21.

In our recent conversation you suggested that we share with you for inclusion in your record evidence that we had diminished the backlog of work arising from the slowdown of this past summer. The conclusion of Terry Rendleman's letter notes our current MEL rate, which confirms the considerable results of our efforts of the past few months.

We request that Terry Rendleman's letter be included in your hearing record. A separate copy ofhis letter has been sent to Congresswoman Slaughter, since his letter in a large part deals with questions raised in the hearing by her.

Sincerely,

Paul Schoellhamer

Paul Schoellhamer

Attachment

NORTHWEST
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MAILING ADDRESS • MINNEAPOLIS/ST. PAUL INTERNATIONAL AIRPORT
ST. PAUL, MINNESOTA 55111 • USA

R. TERRENCE RENDLEMAN
VICE PRESIDENT
MAINTENANCE & ENGINEERING

November 19, 1987

Honorable James Oberstar
Chairman
Subcommittee on Investigations and Oversight
Committee on Public Works and Transportation
U.S. House of Representatives
Washington, D. C. 20515

Dear Mr. Chairman:

The purpose of this letter is to provide additional information for inclusion in your hearing record of October 20 and 21, 1987.

On October 21, Congresswoman Slaughter asked about some specific flight delays she had experienced four months earlier. The flights involved and the causes of the delays are as follows: On June 13, 1987, Northwest Flight 857 was scheduled to push back at Washington National bound for Memphis at 5:55 p.m. Instead, actual push back was at 6:20 p.m., 25 minutes late. The cause of the delay was that several other flights, including one with an unusually large amount of cargo, had to be handled on the ramp at the same time, in part due to the fact that some of these flights had incurred delays earlier in the day. Thus, the requirement for ramp loading and unloading was much greater than normal and could not be handled as promptly as we would have liked.

The connecting flight from Memphis to Gulfport/Biloxi, Northwest Flight 827, was scheduled to push back at 8:00 p.m., actual push back was 8:50 p.m. Almost all of that delay was due to the fact that the left air conditioning pack was inoperative. In order to try to keep to schedule, it was decided to leave the pack inoperative for the relatively short flights involved using the MEL procedure. As I indicated in my testimony, issuance of MELs requires communication to Maintenance Control in the Twin Cities, so that we have accurate records of MELs and work that needs to be done on the aircraft at all times. Why it took so long to communicate with the Twin Cities in this particular instance is unknown and frankly inexcusable. No American Airlines' mechanics were involved in any way. For your information, the left air conditioning pack was fixed and the MEL cleared at the conclusion of the following flight as the aircraft passed through Memphis. The return flight Gulfport/Biloxi to Memphis, Northwest Flight 929 on June 14, was scheduled for a 5:40 p.m. push back, actual push back was 6:25 p.m. The reason for the delay was that the previous flight segment for that aircraft had been delayed by severe thunderstorm activity. In general, the region around Memphis was hit by thunderstorm activity on June 14, adversely effecting the performance of the Memphis hub.

The connecting flight from Memphis to Washington National, Northwest Flight 856, was scheduled to push back at 7:50 p.m., instead pushed back at 10:50 p.m. Most of that delay was attributable to maintenance. The aircraft recently had a pitot tube replaced and required a static leak check to be performed. That check disclosed other problems related to that system, which then required more extensive work resulting obviously in a very considerable delay.

The service level provided on this particular itinerary was unacceptable, both to us and to our customers. While we had considerable service quality problems over the summer, due in large part to the labor slowdown I discussed in my testimony, this experience is unusually bad even by those low standards. While it is difficult to distinguish in retrospect which specific mechanical delays were caused in part by the labor slowdown and which were not, it is quite likely that the slowdown played a significant part in the problems encounterd in this case.

Once the slowdown abated, the service quality at our Memphis hub (and at many other locations) improved significantly. Using the DOT performance data just released for the month of September, Memphis had an overall on-time performance of 78.4% (arrivals within 15 minutes), making it the ninth best airport among the 27 top airports in the U.S. included in the DOT report. Furthermore, our performance at Memphis has continued to improve. By our own measure, for the week of October 26 through November 1, Northwest achieved at Memphis 86% on-time within 15 minutes for departure and 83% on time within 15 minutes for arrivals, a very solid performance by any comparison. Thus the experiences of June 13 and 14 reflect an abnormal situation in Memphis.

On October 20, Mr. Drescher related an incident regarding Northwest Aircraft #5501 on July 16, 1987, at Detroit Metro. The facts in the case are as follows: a 757 aircraft on the ramp was reported to have a hydraulic leak. Two mechanics, plus a maintenance manager, attempted to determine the cause of the leak.

The requirement is that either the mechanic working on the aircraft or the person directing the mechanic must have the training specific to that aircraft type. In this case, the maintenance manager directing the work had the required training.

They found the leak at the cap plug at the left outboard spoiler actuator. As the captain was in his seat, he was asked to bleed the pressure out of the hydraulic system by activating all the flight controls and brakes (normal procedure to bleed a system). A hydraulic system always has some residual pressure after bleeding. The mechanic was asked to watch for hydraulic spray when he opened the plug. The mechanic opened the plug and was spayed in his eyes with hydraulic fluid (called Skydrol). Any licensed A&P mechanic should be aware of potential hydraulic spray when opening a hydraulic system.

The mechanic was taken in to wash the fluid out of his eyes. It initially appeared that the treatment was sufficient, and he did not immediately indicate any wish to be taken to the clinic. Later when he did indicate a desire to go to the clinic, he was provided transportation to our maintenance hangar and from there was taken by cab at the expense of the Company to the clinic. This was the standard transportation procedure for medical situations not requiring the rescue squad.

In the weeks following this incident, we took the following steps:

(a) we re-instructed all our mechanics that they are to wear goggles (provided by the Company) any time they are working on a hydraulic leak

(b) we created a new procedure whereby those needing to go to the clinic for non-serious situations will have use of a Company paid cab directly from the terminal, without going via the hangar

We are pleased that the mechanic in question was fine and suffered no after-effects.

On October 20, Mr. Drescher also raised issues regarding a DC10 flap vane. The facts in the case are as follows: we needed a replacement left-hand mid-flap vane, a part no longer supplied new from the manufacturer. We obtained a used vane from FDA Aircraft Support, however, only half of the vane had full paperwork as to serviceability. Our own shop, therefore, had to inspect and assure the airworthiness of the vane, which we did. The vane was then installed on the aircraft. FAA subsequently reviewed this situation and found no problem with it. The vane has now been in service for several months and has performed and continues to perform in an entirely satisfactory way.

On October 21, I testified:

> .... the slowdown activity approximately doubled our MEL rate. We had reduced our MEL rate before the slowdown to a fraction of one MEL per aircraft per day, and I am pleased to report that we have now returned to that same level.

We have continued since I made that statement to reduce our MEL rate, and it now stands at six tenths of one MEL per aircraft per day.

I request that the above information be included in your hearing record.

Sincerely,

R Rendleman

R. T. Rendleman

Mr. **Oberstar**. The next witness is the representative of the Federal Aviation Administration, Mr. John Kern, Director of the Flight Standards Division.

Mr. Kern would you identify your associate?

Mr. **Kern**. I have with me today, Mr. Ray Ramakis who is the manager of the Aircraft Maintenance Division of the FAA Flight Standards portion, headquarters.

Mr. **Oberstar**. Thank you.

Mr. Kern and Mr. Ramakis, raise your right hand.

[Witnesses sworn.]

Mr. **Oberstar**. Now the hour is late, but the interest level is very high, I assure you. I have read in great detail at least a couple of times your testimony, and would like to suggest that we include the statement in full in the record. We'll give you maybe 5 minutes to summarize the highlights of it. It touches on new aircraft, initial maintenance specifications, carrier maintenance programs, maintenance specifications, the maintenance manual. It touches on FAR's and airworthiness, contract maintenance programs. The area of very great concern to the subcommittee, the Minimum Equipment List, the MEL, record keeping. I think those are the highlights of the testimony. Perhaps you'd like to stress a few of those points you consider to be the most important, and then we will proceed to questions.

TESTIMONY OF JOHN S. KERN, DEPUTY ASSOCIATE ADMINISTRATOR FOR AVIATION STANDARDS, FEDERAL AVIATION ADMINISTRATION, ACCOMPANIED BY RAY RAMAKIS

Mr. **Kern**. Thank you, Mr. Chairman. I can do it in less than 5 minutes.

I did want to begin by saying that this is an issue that over the past 2 or 3 years the FAA has expended a considerable amount of attention and resources too. And on the first page of my testimony, I did want to emphasize the point that the new Administrator of the FAA, Mr. McArtor, has continued this emphasis. And, in fact, has initiated a new emphasis that generally will provide more information in the boardroom of the carriers dealing with the maintenance and the maintenance practices by the air carriers. I suppose you've heard of his eight new initiatives. One of them has to deal specifically with getting that kind of maintenance information to the CEO and the chief operating officers and the stockholders of the company, similar to a financial audit, a safety audit for the air carriers.

Another thing I'd like to stress, is the fact that we have done a number of things over the past few years, and just emphasize for the record, and I know you know this, and Mr. Mineta, and Mr. Molinari, that we have increased our staffing in the FAA. We have implemented a program of national guidelines that right from Washington guide our day-to-day inspection and surveillance activity. We've impressed that on our divisions in the field. I think we've done a fair job of implementing that over the past couple of years. And we're very proud of that.

Another thing I'd like to emphasize is a program we started 2½ to 3 years ago, a series of in-depth inspections of the major air carriers and repair stations, in response to the situation we found in the carriers in 1984. We've completed over 111 major inspections and we have a full plate of inspections planned for this fiscal year also. I can provide more details if you'd like. We feel this program has given a high level of visibility, not only to the FAA's maintenance surveillance inspection program, but highlighted to the industry the importance that we place behind the program, including the record keeping activities that we think are paramount to a good safety system within an air carrier.

Let me talk just a little bit about the FAA's approval of initial maintenance programs. Many of the things that you heard today indicated that we work together with the manufacturers and the air carrier, and that's true. The FAA, through its principal maintenance inspector and principal operation inspector, do in fact provide a very close review and approval of the programs both in maintenance and operation within the air carriers.

A word or two about MEL's. MEL's have been around in the industry for probably 30 years, 35 years. The basic reason we developed MEL's in conjunction with the air carriers was to give them operational flexibility. I'll give you an example. It wouldn't be reasonable in the FAA's view to ground an aircraft at Dulles Airport with 300 or 400 people on board for some kind of a rather, and I use the term, trivial maintenance problem. I don't mean that we take it lightly. If it's a third communications receiver, or if it's an inoperative light or some other component that does not affect the immediate safety of that flight, we've always allowed them to operate that aircraft until they can get it to an appropriate maintenance facility. So the rules have not changed in that area. The application of the policies and procedures that the carriers have, have really not changed that much.

We would like to say, though, that it has come to our attention recently, through the cards that were discussed that the Eastern Airline pilots are filling out, through our own inspections of the air carriers, that there have been alleged abuses of the MEL's. For that reason we have constituted our own study, our own survey of the industry. We're in the middle of compiling the results of that survey, and probably over the next few months we'll have some short-term recommendations and perhaps rethink our own policies that we've had over the past few years. We think MEL's, deferred maintenance, is a significant item and we're going to pay attention to it.

Another thing I did want to mention, we heard from a lot of the witnesses today that they see a lot more of the FAA. That's true. And I'm delighted to hear them say that. Because five years ago when I talked to the carriers, I talked to many pilots, dispatchers, managers, maintenance folks, who rarely saw the FAA. So it's personally gratifying to me, and I'm sure to Mr. Ramakis, to hear people saying that we're seeing them on a regular basis, we welcome them, and we like to have them on our property. We need to get back into the environment where the feeling is mutual that we're really benefiting each other and we're helping. We like to think that when we go visit a carrier, we provide a free audit. An audit that would cost them literally hundreds of thousands of dollars if they had to pay for it themselves.

I think that pretty well summarizes the germane points of my statement, Mr. Chairman. Mr. Ramakis and myself will be happy to answer any questions at this time.

Mr. **Oberstar**. Thank you very much. I think we will follow with great interest the updating and survey that you referred to and we'd like to perhaps have a look at that when you're ready to promulgate anything new that may come from it.

Let's get to one of the major points of controversy that came up in the course, and one of which triggered this hearing. That is the interpretation of MEL's. You're familiar with the part 91.51, the altitude alerting system, et cetera. And you may have heard Mr. Kolski of Eastern try to distinguish between part 121 and 91.51, and heard his interpretation of what it means to continue a flight and whether a flight should continue with an inoperative altitude alerting system. In fact, in specific response to my very pointed question, he said, yes, an aircraft can fly without an operative altitude alerting system. Every one of six non-Eastern, non-American, non-Northwest pilots, non-ALPA pilots that I asked one on one just a week ago about this same question said, "If it doesn't have an operative altitude alerting system, the aircraft doesn't fly. I don't take it out."

Now, you're aware of the inquiry to the Miami Regional Counsel for clarification and interpretation of the MEL language, "In the event of malfunction or failure, the airplane may continue the flight or a series of flights, but shall not depart an airport where repairs or replacements can be made." The regional counsel inquired whether or not there had been an interpretation rendered by the Chief Counsel of FAA. To date there has not. His finding: "After review we conclude that the nonavailability of ground time, parts, and manpower at an airport where repairs or replacements are made as designated by the carrier in its manual, is not a valid reason for postponing the repair or replacement." That ruling, however, was set aside in a September 18 memo by Mr. R.R. Hagadone, the regional counsel to the Miami Flight Standards district office, in which he said, "I am advised the issue is presently under review at headquarters and no final determination has been reached. Accordingly, please disregard my memorandum of August 13. National guidance on this matter will be issued as soon as possible."

It's now a month since that memorandum was sent forward, 2 months since the ruling was made by the regional counsel. Six months since the initial inquiry was made. A standard was issued in the FAR by FAA. It seems at this late date interpretation of that language should not be a matter of dispute, as I read the language by the regional counsel. It just makes plain good sense, good safety sense, that if you don't have the part that's not an excuse for waiving the requirement and continuing the flight. The part is part of the MEL, it's an airworthiness item, and if you don't have it on that aircraft, you oughtn't to fly it. That's what pilots tell me.

So, what is the status of the review of the regional counsel's decision, and are you going to issue a uniform national standard? Is there a distinction between part 91 and part 121?

Mr. **Kern**. Well, let me say that our goal is to issue a uniform national and albeit international standard. We have a short-term objective to do that in about 2 months, and a long-term objective to make a regulatory change to make it even more mandatory.

So let me set that aside, and say yes we do have a goal to have a standardized national policy. In fact that's one of the reasons that when we saw Mr. Hagadone's letter, the first time, we decided to ask him to delay that until we had a chance to circulate it around for comment among all of our regions and other interested parties, so we could develop a national policy that would be pertinent to all carriers, and not just the situation that we found at Eastern. Because it is a situation that needs to be handled in a uniform basis.

And somebody mentioned earlier the level playing field kind of philosophy. In fact the gentleman from American Airlines said, made a statement that, "I'm not too concerned about what you do to American, but make sure you do it to everybody else in a standardized manner." And that's really the reason we asked Mr. Hagadone to kind of pull that back.

Mr. OBERSTAR. And that I can fully understand, that there should be a national standard. It's one of the points of concern of this subcommittee over at least two other chairmen, going back to Mr. Mineta, and then Mr. Levitas before me, insisting time and again, that FAA nationalize and standardize its practices. We've got all these regional offices and too often they operate as fiefdoms. So I can't quarrel with the—but I do question the time it's taking to issue what seems to be a very clear cut interpretation.

Mr. KERN. Well, let me say that as far as an issue that we've had concern about in Washington, alleged abuse of the MEL, it's an issue that was only raised several months ago. We discovered it in conjunction with some of our national inspection programs. I believe Mr. Hagadone's letter was dated about August or so. I'm not saying that it may not have been a problem longer than that. But as far as our focus on the standardization of that part of the program, it started about 2 months ago. I think we've conducted an aggressive survey. Mr. Ramakis and his people are analyzing that data right now, and we're committed, the Administrator is committed to have that problem resolved in about two months, as I said, in the short term.

Now let me go back and explain some of the things that Mr. Kolski was saying. It in fact had been an approved procedure of the FAA in certain regions, and it goes back to the non-standard application or interpretation of the rules. That if the part was not available at a particular maintenance facility, that in fact was an excuse not to perform that maintenance at that particular time. The thing that got the FAA interested in it, at least as far as our office in the Southern Region and our office here in Washington, is many of the cards that came in from the Eastern Airlines captains. They were complaining that it not only happened for 1 day or 2 days, and I say many. I'm referring to 4 or 5 now, out of 900. But there were alleged—there were times where it was alleged that for 23 days, or 24 days an aircraft had gone and an altitude alerter, as an example, had not been repaired. Well, that raises a serious question in my mind, not only about an abuse of an MEL, but about the supply of spare parts and other maintenance facilities and personnel that may be out there in the system. And that's why we initially got involved in it.

One of the regulatory requirements for certification of an air carrier is a maintenance program that includes the people, the facilities and the spare parts to be able to maintain your aircraft. That's kind of a long-winded way of saying, that the procedure that we had out there, the policy that had been out there for years in many parts of the country, allowed the nonavailability of parts on that particular occasion, as an excuse for not doing the maintenance. So what he told you was true. And it had been approved by FAA inspectors in Miami and probably inspectors in other parts of the country.

Mr. **Oberstar**. Are there regions where there would have been a different interpretation of that MEL?

Mr. **Kern**. I haven't seen any. And as was stated earlier, there was never a national interpretation given by our Chief Counsel's office. We think it's very important now, though, that we get one and we get it soon.

Mr. **Oberstar**. Does it make sense to you that—just plain common sense to you that an item as important as this should be waived just because it isn't available at a particular location?

Mr. **Kern**. Well, I can understand, you know, the parts availability problem, the logistics of that, and I'm sure there are legitimate occasions when parts would not be available. Again, in infrequent cases for short durations, we've made determinations using the MEL that for dispatch purposes and reliability of the air carriers, that we don't want to cancel flights for those kinds of situations.

I have a copy of a Master Minimum Equipment List for DC-9 aircraft. I'm not sure if you've had an opportunity to take a look at what we've been talking about all day long.

As you can see, it's got quite a number of components. And I'd be happy to give it to the committee. You might want to look it over and particularly the preamble, which states the purpose of an MEL. There's one sentence in here, as a matter of fact, that I would like to read, that I had in my testimony, but it may emphasize some of the points that I was making. Well, it's actually more than one sentence.

> Federal Aviation Regulations permit the publication of this Minimum Equipment List designed to provide owners and operators with the authority to operate an aircraft with certain items or components inoperative, provided the Administrator finds an acceptable level of safety maintained by the appropriate operations limitations by transfer of the function to another operating component, or by reference to another instrument or components providing the required information.

Now that's one side of the MEL that pretty well defines why we have it. But let me read another section that puts some limitations on it. "The MEL was never intended to provide for the continued operation of an aircraft for an indefinite period of time with inoperable components." And that's right in the preamble. "The basic purpose of the MEL is to permit the operator of the aircraft with inoperative equipment within the framework of a controlled and sound program of repairs and parts replacement." Now, that to me anyway, explains why we give them the latitude but at the same time contains it, and doesn't allow them to operate for an indefinite period of time.

The problem we've had over the years is that we never had a need before, I think, to define it in terms of a definite period of time.

Mr. **Oberstar**. Is that one of the items that is under discussion now?

Mr. **Kern**. I think that's precisely the item that's under discussion.

Mr. **Oberstar**. The language that you read is Paragraph 3 of the Regional Counsel's finding:

> It is fundamental that the MEL was never intended to provide for continued operation of the aircraft for an indefinite period with inoperative items. If the non-availability of ground time were a permissible exception the operator could legitimately postpone important repairs indefinitely. Accordingly, non-availability of ground time during layover, or terminated stops, et cetera, is not grounds to postpone a required repair or replacement.

That's taken right out of your basic document. And why there should be any question about it is puzzlement to me, but if you've given yourself a 2-month time frame, it seems to me that that's more than enough, and it seems to me it ought to be concluded sooner, given the attitude that we've heard from some people here today. Clearly there is a discrepancy among the airlines. American said, "We wouldn't fly that airplane."

Mr. **Kern**. That's true, and as a matter of fact, I should add, one of the significant changes at American Airlines, after our major inspection that was discussed today, was a complete rewrite of their MEL. I've had many, many people from American Airlines, including pilots in particular, tell me that that's one of the best things that has happened to them. They like the MEL I believe they have today. They can understand it. Not only the pilots understand it, but the maintenance organization understands it.

Mr. **Oberstar**. Well, I have a number of other questions, but I'd like to give all the Members an opportunity to raise questions, and we'll proceed and try to stay within the 10-minute time frame. We'll have several rounds.

Mr. **Kern**. Could I just make one comment——

Mr. **Oberstar**. Yes.

Mr. **Kern**. Dealing with the 2-month period? When you have a chance to peruse that document, you'll see that it sounds as if it's a very easy thing to do to put a time limit on various components. There are literally hundreds of components with different intended purposes on that aircraft. I think we have to be careful to take a close look and not categorize—how we categorize parts and components and what the time limits might be.

I want to assure you that the people looking at this in the FAA and in the industry are our flight test engineers, our operations experts, the industry's experts in that area. We want to come out of it with a product that we can live with and will serve both the transportations needs and the safety purposes in our aviation system. It's a very complex exercise.

Mr. **Oberstar**. Well, I understand the distinction between appearance items and airworthiness items. As to those factors that affect airworthiness, it seems to me you've gone through that procedure once already in approving the maintenance, approving Boeing's or the manufacturer's manual, and now we're going through it a third time. But that's where we are at the moment. We'll ruminate on that for a time.

The gentleman from Pennsylvania?

Mr. CLINGER. Thank you, Mr. Chairman.

We've heard some of the airlines in here today talking about their projected increases in the years ahead in numbers of planes and flights, et cetera. And since it's going to be the responsibility of the FAA to inspect these aircraft, I'm wondering what plans you were making as an agency to keep abreast of what promises to be fairly substantial growth in the industry and your ability to conduct the kinds of inspections that are going to be necessary. Could you give us an idea of what your plans are for meeting that obligation?

Mr. KERN. Yes.

We're aware of the growth plans of the major air carriers and the not so major air carriers in the United States, and it's surprising that the three that were represented here today were certainly large, but we have almost 300 certified air carriers in the United States, both part 121 and part 135. One of the items we've done is to link our staffing standard in the FAA directly to the aviation environment. In other words, through our national programs guidelines document and our new staffing standard, we can directly link our staffing needs to the total number of aircraft, pilots, repair stations, flight schools and other things that we're expected to go out and inspect and surveil on a regular basis.

We've done that. We recognize that we're short of staffing right now. We've come back for the next 3 fiscal years and requested increases in staffing. We've had great support from the Secretary's office and from Congress. And we expect, at least from a resource and staffing standpoint, that we'll be ready for it.

The other two very significant improvements we've made is the total rethink of our own training program within the FAA for all of our maintenance operations and avionics inspectors. That program has been brought up into the 20th century. We're dealing with courses in avionics that are very sophisticated these days, dealing with other things that had not been updated in our training program literally for years and years. The other big side of that big standardization effort we have is a total rewrite of all our handbooks and directives, new guidance for our inspectors. We're about halfway through that project. It's a big project and we're going to continue with it until we have that product out.

The other thing, and it's linked directly with our national inspection program, we have created right in Washington on the third floor of our building, in Flight Standards, a national evaluation staff. And that staff literally has its pulse on the fingers of aviation safety on a day-to-day basis. They manage the national inspection teams. They survey the problems that we're finding out there on a day-to-day basis and give us—are able to point out and kind of flag the areas of interest that we need to be concentrating our resources on from time to time.

I think we're ready for it. We've had great support from a lot of people, and a lot of help.

Mr. CLINGER. Well, with regard to your statement about the training, I don't know if you're aware of the testimony which the

OTA gave yesterday, which characterized your inspector training program as widely considered unsatisfactory, poor quality, not providing graduates with the professional tools or information they need. It was a generally critical analysis of your training programs.

I wonder what your response is.

Mr. KERN. My response—I was very surprised this morning when I saw the AP release that characterized that statement yesterday, as you've put it. We have made significant improvements in our training program in Oklahoma City.

Let me say we've been working closely with the Office of Technology Assessment. They've initiated a study. I don't believe they've really taken a close enough look at what we've done over the last few years to get a good picture. I think what they're telling you is what they honestly believe at this point in time, but I believe they need to do a lot more study in that area.

As an example, the GAO had a study that was published about a year ago that characterized the FAA training program and staffing and other improvements, and the title of that GAO article was, "Needed Improvements at FAA Were Underway," in the areas that you're talking about. We admit that it's going to take a few more years to get them in place. But we've made a number of significant improvements that I don't think OTA has had a chance to really get into yet.

Mr. CLINGER. One of their criticisms was that the regional offices have wide latitude in their training syllabuses. I guess my question is, don't you see a need for some uniformity in the kinds of training given inspectors?

Mr. KERN. I don't really understand that comment, or that criticism, because we only have one academy in Oklahoma City, where we do all of our training, basically. We do a lot of contract training out of other facilities, but again it's training toward one national specification. The regions supplement that training, which they have every right to do. They may have environmental differences from region to region and need something in a particular part of the country that others may not need. But we have one academy, one main training program, and one specification for contract training.

Mr. CLINGER. Okay.

In your statement you mentioned special in-depth inspections of all air carriers on a periodic basis. How frequently are those inspections completed, and does the frequency vary with the past history of the particular carrier?

Mr. KERN. Well, the past history certainly will have an influence on our schedule for any particular year, and it has in the past. But the goal we've established in the FAA is to do 50 major air carrier inspections a year. That would give us the top 150 on a 3-year cycle. And as an example, about a year from now, it will be time for us to go back and take another look at Eastern Airlines, because the initial inspection was done about 2 years ago.

Mr. CLINGER. So you're hitting them every three years?

Mr. KERN. That's our goal, yes, sir.

Mr. CLINGER. Every carrier?

Mr. KERN. The top 150. Now I mentioned there are about—well there are less than 300 now because of the mergers, but the major carriers, or the major areas that we identify through our evaluation process as the ones we want to go out and take a look at.

Mr. CLINGER. We've had some discussion here about the fact that different carriers have different maintenance manuals and approaches toward maintaining the same aircraft, and the possibility that where there's contracting out, some things could fall through the cracks, and some things do happen that we don't want to see happening again.

Do you see a need for FAA to step in here and try to provide more uniformity in the way airlines go about their maintenance schedules for these aircraft?

Mr. KERN. Well there is a wide degree of latitude allowed to the carriers to develop their own maintenance programs, and that's what we've had in the past and it really hasn't been that much of a problem. We do recognize, however, that the regulatory requirements for maintenance in part 121 of the regulations need a thorough review. They haven't been updated in probably 25 years.

In fact, I've said before, I believe to this committee, that as soon as we get done writing the handbooks, we're going to take those same resources, those same people, and do a major rewrite of our regulations both in operations and maintenance of the air carriers. Pertaining to the contract maintenance program, there's really nothing wrong with the contract maintenance program when it's properly done. We have found problems over the past 2 or 3 years where they haven't been properly done. As was mentioned earlier, the air carrier who holds the certificate maintains, of course, the responsibility for that maintenance work. We found cases where they have abdicated that role. They haven't been out doing their own inspection, and surveillance, and quality control work, which we expect them to do.

Mr. CLINGER. You have inspection schedules for the airlines, but what about some of these independent contractors that are doing maintenance work? Do you inspect them as well?

Mr. KERN. Yes, sir.

Mr. CLINGER. With the same regularity?

Mr. KERN. Absolutely.

I didn't mean to leave out repair stations, maintenance facilities, and all the other certificated entities both here and overseas. They are included in our inspection and surveillance program. They are included in our in-depth inspection programs on a regular basis. And, in fact, we had a special highlight kind of inspection about a year ago where we did nothing but maintenance facilities, special teams that were developed and sent to a number of maintenance facilities here in the United States.

Mr. CLINGER. Thank you, Mr. Chairman.

Mr. OBERSTAR. We have probably 6½ minutes remaining on vote in progress. We'll recess for the period of time necessary to vote, and return.

[Recess.]

Mr. OBERSTAR. The subcommittee will resume its sitting.

The Chair recognizes the gentleman from California, Mr. Mineta.

Mr. MINETA. Thank you very much, Mr. Chairman.

First of all I just want to express my own personal thanks and gratitude for the fine work that you, Mr. Kern and Mr. Ramakis, both do for the FAA, as well as for all of us. I consider both of you professional civil servants, and I just wanted to express my thanks to both of you for displaying the highest degree of integrity and devotion in terms of your work.

Mr. Kern, there's a widespread sense that the competitive pressures in today's industry could be unhealthy from a safety standpoint. I have yet to see any comprehensive data to confirm this, but basic human instinct tells us that in some circumstances with the wrong people it could be a problem. Other than inspecting more and being on top of what's going on, is there anything else we should be doing to try and calm these kinds of concerns that seem to exist?

Mr. KERN. Well I could—yes, I think there are some things.

I don't think that we've done a very good job in the FAA or in the industry of talking about a lot of the good things that are happening out there in the aviation industry. You may be aware of another one of Administrator McArtor's initiatives is to try to do something about that. And, you know, talk about the 415 million passengers, and the 220,000 general aviation aircraft and users who are doing things right out there, who do maintain their aircraft and get from point A to point B. Maybe part of it is a little bit of a publicity campaign to let the citizens know that air travel is safe, and there are a lot of excellent people doing a good job out there. That's not primarily my role. We have, of course, the data to support that.

I don't think we can fall short in our inspection and surveillance program. We try to be diligent at all times. You know, we have about 900 cards from pilots of Eastern Airlines aircraft right now that Mr. Ramakis' people are investigating each and every one, cataloging. We'll have an analysis of those cards for you and for the committee and we'll be prepared to talk about every one of them in the future. From an FAA standpoint, from my perspective in Flight Standards and Aviation Standards, I think our inspection and surveillance program is really the key to a system that continues to be safe and responsive to the needs of the American public.

Mr. MINETA. You're the what I refer to as the cops on the beat.

Mr. KERN. The Feds.

Mr. MINETA. You're the cops on the beat. And something I raised yesterday and I've talked about this with a number of people, and that's the desirability of having somebody I call a safety officer for each airline. Now I understand some companies have such a person, but others do not, or that person is not high enough in the organization of the company.

What I have in mind is a high level management person that reports directly to the chief executive officer and has no operational role or line responsibilities. This person would report to no person with general responsibilities other than to the CEO. He would have enough staff and resources to perform much like an inspector general for safety within the airline. He would be capable of reviewing safety-related programs, analyzing the safety implications of operational decisions of others.

I'm wondering, to what extent does the industry take this kind of an approach and should there be a regulatory requirement within part 121 that would require this kind of a safety officer?

Mr. **Kern**. Well, there's certainly precedent for your idea both in the FAA and in the military that I'm familiar with. You take a look at a lot of military flying organizations, and in fact they do have safety officers. The safety officer reports to the commanding officer and has pretty much a free reign over investigating and checking on the various safety activities of the unit, whatever it happens to be. And as you know, several years ago, the FAA created an aviation safety office. And now that safety office reports directly to the Administrator, and has wide latitude in the inspections and programs and analyses that they do in various areas of aviation safety.

I'm aware of these similar kinds of organizations that were in most of the major air carriers, that something was identified as a specific unit. I'm not aware of where they were in the organization, but if there was such a safety officer, a unit, I share your belief that it has to report directly to the upper management, if not the chief operating officer of the company, and probably has the latitude. My personal belief is that based on some of the things we've seen in the air carrier business, maybe the safety business should be concentrated in one area.

I've heard people say that well, everybody has that job. That's what we said in the FAA when we created the Office of Aviation Safety. Not unlike an air carrier, we, myself included, questioned the need for an aviation safety office within the FAA. Being in Flight Standards at the time, I of course thought safety was my job. And it is, and it was. Folks in Air Traffic I'm sure shared the same view. But it has enabled the FAA to bring together and focus on particular problems in a more concentrated kind of way than was previously available in the other organizations.

Should that be a regulatory requirement? I really don't know. I guess my leaning right now is that if there was a person in an organization an ombudsman type with sufficient authority, with the right credentials to go out and properly manage the safety programs, and make suggestions to the chief operating officers, and had the authority to go back into the organization, I think it would be beneficial.

Let me also explain maybe another way to do it. One of the proposals that Administrator McArtor has is to, through the regulations, require a safety audit of the air carriers. And as I mentioned before, as you know it's normal in these large corporations for the chief operating officer to have a financial audit on a regular basis. And then sign that audit, attesting to the fact that the chief operating officer has actually seen it, and then send it off to the board of directors. What the Administrator has in mind and what we're working on right now, is an audit of the safety programs. How many deferred maintenance items do you have in your air carrier at this time? What's the quality of your own inspection program? What is the FAA saying at this point in time about what's happening in the shop and out on the line with your air carrier? Some other selected activities so that we can raise these and highlight and focus them right to the chief operating officers and executive officers of the corporation. Have them sign that report and then send it off to the Administrator, or to the local office, to the Regional Director of the FAA. The public would have that record also.

The stockholders would have that record. I think that's a good way of maybe accomplishing a very similar objective. It's something that we're going to be working on in the FAA over the next few months.

Mr. MINETA. Mr. Kern, very quickly, your office has been submitting quarterly reports to us with respect to the implementation of Project SAFE. I'd like to have you do two things. One, I'm wondering if you could provide us a brief overview of what has transpired over the past year? And secondly, would it be safe to say that to the average line inspector in the field, that Project SAFE remains something he or she has only heard about and that it's benefits are still yet to come to that person?

Mr. KERN. I think a year ago that statement would have been true. And let me explain why. There's no doubt—I don't believe there's any doubt in any of our inspectors' minds that they've seen additional staffing in their offices. They may not know that's as a result of Project SAFE and the new staffing standards, and it does disappoint me from time to time.

When I get out in the field I talk to the inspectors as you do, I'm sure, when they don't recognize the acronym Project SAFE. But they do know that they are now working with a set of National program guidelines that mandates their work program. And again, they may not know it's a product of Project SAFE, they know they have additional help. They've got new people in the offices. They do know, I believe, that they are working with some new guidance in many cases it's draft guidance, but it's new handbook material. It's new procedures for certifying air carriers, and for developing operation specifications. So I'm not sure they would recognize it as a direct fallout from Project SAFE, but there are things in virtually every office in the country that are a direct result of that.

The other thing mentioned earlier, we had an interim update of our training program, awaiting the results of our formal job task analysis and the curriculum that is being developed by the Allan Corp. of America. We will have a first class, grade A, number one training program for our inspectors. They may not recognize that the training program they go to right now in Oklahoma City, that we call the String Course, is a product of Project SAFE, but it is. It's a substantial improvement over what they had before. And we're proud of it.

Yeah, I get disappointed. I do run into inspectors who after 3 years don't recognize the acronym SAFE. And you know, I take it kind of personally, because I was in the room when we invented the acronym. But then I talk to them about some of these things, and remind them that it's one effort. And it really is. And I hope that know they're becoming more and more aware of it. We take every opportunity to give that speech and to make sure that the folks are acquainted with the program.

Mr. MINETA. Very good.

Well, again, thank you very much, Mr. Kern and Mr. Ramakis. I'm just very proud to have you there in the organization. Both of you are fine people.

Mr. KERN. Thank you, sir. We appreciate your support.

Mr. RAMAKIS. Thank you, sir.

Mr. MINETA. Thank you, Mr. Chairman.

Mr. **Oberstar**. Thank the gentleman for his questions.

The gentleman from New York, Mr. Molinari.

Mr. **Molinari**. Thank you, Mr. Chairman.

I must add my voice to those who seem to be pleased with things we're hearing here today and some of the initiatives that we've seen Mr. McArtor bring with him. It's encouraging.

Several months ago, I had asked—I sent a communication to Mrs. Dole requesting that she conduct a "white glove inspection" of Eastern Airlines. That was predicated upon several basic facts. Number one, that they had been fined $9.5 million. Number two, that we had received, members of this subcommittee particularly, many, many complaints about serious deficiencies with that carrier. It was difficult for us to be able to assess whether they were indeed serious or whether simply a result of the labor-management problems that existed. Her response to me was that, and I'll read it: The FAA "white glove inspections" are scheduled at a quarterly meeting. The FAA will consider scheduling Eastern for a special inspection at the next meeting.

Now that was August 20, 1987. I don't know when the quarterly meetings—she didn't indicate in this response. Do you know whether one has been held since that day, and if so, whether this request was considered?

Mr. **Kern**. I don't know what the schedule for the quarterly meeting was either. But I said previously, that at least as far as I can recollect another white glove or in-depth inspection of Eastern will be scheduled about a year from now. I would suspect the first or second quarter of fiscal year 1989. But I can tell you—let me say that we share your concern about the cards and letters and phone calls and other information that we get on Eastern Airlines.

Mr. **Molinari**. Well, wouldn't it make sense then to accelerate the white glove inspection by a year so that we could all be——

Mr. **Kern**. What we did, we reassembled the initial team that had gathered to do the first white glove inspection on Eastern Airlines. Last month that team began to review the get-well plan, if you will. We had a 53-point get-well plan that we held Eastern's feet to the fire on. That team has been working out of our office in Miami with Eastern Airlines now since August. They're going to be down there for another few weeks. So in effect, what we have done may not be a formal white glove or in-depth inspection, but we have taken a look at each of those 53 items and other things.

Some of the other things that we've looked at are some of the items that have been highlighted out of the card program. As I said, we received 900 of those. By the way, to be fair to Eastern I should say that, a small percentage, but a number of the cards that did come through were from captains who said that the maintenance on the carrier was the best they had seen in the history. And they'd worked with the company for 20 or 25 years. We've also received some letters that have said the same thing. So, we have had some very positive things said about Eastern during the campaign.

The other thing that we've been looking at at Eastern Airlines were the recommendations out of a study that was done by our Eastern Region. Our New York office took it upon themselves to do a study, 3 or 4 months ago, which they certainly have the latitude to do, and forwarded—it was in conjunction with our Southern Region, and forwarded it to the Southern Region. This was folded in with the revisit by the original team, and I would suppose we would have the results of that inspection completed in another month of so.

Mr. Oberstar. Would the gentleman yield?

Mr. Molinari. Surely.

Mr. Oberstar. Mr. Kern, do you have a report of those inspection results available?

Mr. Kern. I do not have—I saw a copy of the report on its way to the Southern Region. I do not have one at this time.

Mr. Oberstar. Would you obtain a copy of the report and submit it for the committee's records?

Mr. Kern. Yes, sir.

Mr. Oberstar. Thank you.

[The report referred to by Mr. Oberstar is retained in subcommittee files.]

Mr. Molinari. Now, Mr. Kern, with all that has been done, I take it that the inspection work, or the field work has kind of been completed and you're assembling the material now to compile a final report, is that accurate?

Mr. Kern. On Eastern Airlines?

Mr. Molinari. Yes.

Mr. Kern. Well, we did, of course, compile a final report on our first inspection. We've been working closely with Eastern since then and the inspection itself took about three months, the first one. The follow-up activity took another six months or so. We had 53 items, significant activities, that had to be performed at Eastern. We're following up on that right now. It's really the second or third report that I expect to have in another month or so.

Mr. Molinari. Okay.

Can you share with us, if you would, whether some of the charges that we've been hearing, and we've talked about for 2 days, by some of the pilots and mechanics are in fact justified in your review? Have you seen these allegations that have been made? Are some of them true?

Mr. Kern. We have—well, let me try to answer it this way. As a result of some of the allegations you've heard, some of the cards we receive, we have investigations underway that will result in some kind of a civil penalty action at Eastern Airlines. And I don't have the details on any particular case, but that's a safe statement for me to make at this time.

Mr. Molinari. Let me ask you this question before the break.

The question that I asked today of Eastern, personally I have a feeling that these planes that stopped and the regulations that were quoted today, I honestly don't believe that some of these planes stopped at stations or airports where they had replacement parts. And I believe that they simply, for expedience, not wanting to tie up the plane, kept going. Now, are you going to be able to go back? I requested that information and they said it's going to be very difficult to secure the information. I think we're entitled to know whether when this plane stopped at various airports if in fact they had the replacement parts and chose not to do so. And that I think is critical to the inquiry that we've been going on here for the last couple of days. Can you give us some insight into what you're able to find out for us on that score?

Mr. **Kern**. Of course the only data we have is the data that Eastern has, but I can tell you that if Mr. Kolski said he has a number of folks working on this, we certainly have an equal number and many more. I can tell you, every one of those cards that makes an allegation that a part was not replaced will be investigated. A detailed study of the log sheets, study of the inventory of the parts at a particular facility will be made. We're as anxious to get the answer to that question as you are. And we're more interested, perhaps in the larger question. If parts weren't available, and it was a maintenance facility, why weren't they available?

Mr. **Molinari**. That's a very good point. You brought it up before. And that's the second part of the question, really.

Mr. **Kern**. That's right.

Mr. **Molinari**. Did they have the part and choose not to do it, or if they didn't have the part, why didn't they have it? I'm pleased to hear that you're following it aggressively.

Mr. Chairman, I have a couple more questions, and I don't know whether you want to break now and vote and come right back or——

Mr. **Oberstar**. Let us—we've got about 7 minutes left on the vote, let's break for the vote and return, because I have a number of questions myself.

[Recess.]

Mr. **Oberstar**. The subcommittee will resume its sitting. At the time we recessed for the vote, Mr. Molinari had the floor.

The Chair recognizes the gentleman from New York.

Mr. **Molinari**. Thank you, Mr. Chairman.

We talked today and yesterday about the increase in fines from $1,000 to $10,000 and this was something that this subcommittee approved and the bill was approved by the House. And it's something that Mrs. Dole had been endorsing for some time, and as late as this year. She had asked for the same thing, to increase the fines for safety violations ten-fold. And indicated the prime reason was that she felt it was needed as a deterrent. Now, there's been some disagreement with the carriers over that, and the gentleman from Eastern Air Lines brought up an example of somebody walking off with the certificate, and that under those proposals they'd be fined. I pointed out that that's a discretionary power, and I doubted that in fact they'd be fined for that.

But I think this is critical to the whole subject. I felt that the fine should be increased. But Mrs. Dole, the head then, of the Department of Transportation, said the existing fine structure was not enough. We want to increase it by ten-fold, and we did. Now what impact—first of all do you agree with her proposal and ours that you increase the fine from $1,000 to $10,000? Do you concur in that?

Mr. **Kern**. Yes, sir.

Mr. **Molinari**. You do. Okay.

Now why did she believe it would be a deterrent, and the $1,000 fine, which amounted to a $9.5 million fine in the case of Eastern Airlines was not adequate as a deterrent?

Mr. **Kern**. Well, first of all I think the $1,000 civil penalty, if I remember right has been around since the 1940's, maybe the 1930's. So I'm sure back when that was originally drafted it was for one reason, $1,000 back in those days was at least in part a deterrent, because it was something meaningful and significant, something that would hopefully encourage people not to break the rules. Quite frankly, $1,000 civil penalty to a major air carrier, to a large operator, is a very trivial amount of money. From a deterrent standpoint it probably has little if any impact. In fact if it wasn't for the public arena and the way these things get picked up in the press, I'm not so sure $100,000 fine would really be much of a deterrent. So I think that's the reason.

Now, let me say that my understanding is as with the $1,000, the $10,000 is a maximum civil penalty that can be assessed. More often than not in the FAA we mitigate the fines as to the nature of the violation, as to the gravity of the particular item, the intention of the operator. All these things are taken into account before we come up with any number such as $9.5 or $9.8 million. So a $10,000 civil penalty we think would be the kind of a civil penalty for a one-of-a-kind violation, or a rather—I say insignificant, but I don't mean that, but one stand-alone kind of violation that will get somebody's attention, and will cause them not to do it again. At the same time, if we get into a situation where you start adding up flight by flight, by flight, by flight, we certainly will be reasonable and mitigate that and make it consistent with the nature of the violation.

Mr. **Molinari**. Okay.

Now we had a fine of $9.5 million for Eastern Air Lines. And we have a fine of $1.5 million to American, was it?

Mr. **Ramakis**. Yes, sir.

Mr. **Molinari**. $1½ million dollars for American. And subsequently in what we've heard in 2 days testimony, was that responding to that fine, American obviously did a good job in reducing the MEL's. But for some reason Eastern—well, they could blame it, I guess, on the labor problems, did not do an equivalent job. Is that your assessment at this point?

Mr. **Kern**. Well, let me begin by saying we were delighted with the attitude that American Airlines took after the completion of our inspection and the publication of our report and after having sat down with them and talked about it. A representative from American Airlines I think characterized it as the FAA would, as they may not have liked it, they may not have 100 percent agreed with things, but they decided that that was going to be their new base line in terms of a standard for safety, and there's no doubt that they did get with that program, and they've done a magnificent job since then.

After the Eastern Air Lines inspection, we presented the report. As Congressman Mineta said, the senior management of the company was here up on the Hill, was in our building with not the same kind of attitude toward the results of the inspection that we saw from American. However, we did come up with a 53 point get-well program, and that's been completed. It hasn't been a voluntary kind of acceptance of the inspection results that we saw at

American Airlines, but the results was pretty much the same in terms of compliance with our safety programs.

Mr. MOLINARI. I'm going to move along quickly because the hour is late.

The General Accounting Office issued a report on aviation safety dated May 1987. Are you familiar with it?

Mr. KERN. Is that the one, "Needed Improvements Underway at FAA"?

Mr. MOLINARI. Yes.

Mr. KERN. Yes, sir.

Mr. MOLINARI. That's correct.

And under the base recommendations, they said GAO recommends that the Secretary of Transportation direct the Administrator of FAA to revise FAA standards for the type and frequency of airline inspections to take into account the need to target airlines displaying characteristics that may indicate safety deficiencies. Now do you know what action was taken, if any, by FAA in response to that recommendation?

Mr. KERN. Yes. We have created, as I said earlier, a flight standards evaluation staff. It's on the third floor of our building. We have about eight people working in that office on a full-time basis, including an Air Force lieutenant colonel, who provides us a liaison with Scott Air Force Base for the military charter kinds of operations that they run.

That group, as one of its functions, reviews inspections, the results of the National Inspection Programs, has identified indicators that they will use to direct and focus our resources in our flight standards organization toward particular problem areas, or particular carriers that they note and think we should go out and inspect in other than a routine basis.

Mr. MOLINARI. And one last question.

Yesterday, the Office of Technology Assessment testified. And I'm sure you must have seen a copy of their testimony. Their written testimony really amounts to almost an indictment of some of the practices at FAA. I must say, in fairness, when I questioned them on some of these points that were in the written testimony, they seemed to back off somewhat. But it makes you stop and think. And you wonder if you are really making progress when OTA comes up with testimony such as it did, even on the issue of the training at Oklahoma City for inspectors. Rather serious charges.

Would you care to respond to—you're familiar with it?

Mr. KERN. Yes, sir. I haven't read that statement, but I'm familiar with what was in the press this morning anyway, as a result of that. As I said earlier, I think the OTA needs to look a little bit harder. I think they began their study just a few months ago. They have been out to several of our regions. They have talked to some of our inspectors. I've met with them. Some people who were here yesterday and heard them talk, said it was very similar to the discussion that we had 2 or 3 years ago with the GAO. Now the GAO came out with that report and identified after a rather rigorous study that the needed improvements were being made. And OTA, I think, is at the point in their study where they've uncovered some problems, and haven't yet really uncovered the fact that we have a number of programs and projects underway to correct those problems. So I think they need a little more time. You know, I don't take issue with any of the problems, but I don't think they realize yet that we're serious about correcting those deficiencies, and we've been doing it, in fact, for the last 2 years.

Mr. **Molinari**. May I make a request that you respond in writing, if you would, just for the sake of time, because there are a number of charges in here——

Mr. **Kern**. Yes, sir.

Mr. **Molinari**. And we'd be here all night. I think just simply if we'd furnish a copy of this to you and ask you to respond in writing to their testimony it would be very helpful to the record of this subcommittee.

Thank you, Mr. Chairman. I have no further questions. And thank you, Mr. Kern.

Mr. **Oberstar**. And thank you, Mr. Molinari.

[The following was received from Mr. Kern:]

RESPONSE TO OTA TESTIMONY

In testimony before the House Subcommittee on Aviation, on May 22, 1986, the FAA acknowledged that improvements were needed in inspector guidance, training, and record keeping. During that hearing we announced our plan for developing and implementing necessary improvements. The plan was called "Project SAFE". Since that hearing, the FAA has provided quarterly progress reports to the subcommittee detailing the status of each activity in the plan and modifications to the plan that are required as development progresses. The GAO has acknowledged that needed improvements are on the way. We share Ms. Naismith's frustration that final corrective actions are not in place, however, many of these efforts are long term improvements which are very involved and by necessity will take time to complete.

Our concern with Ms. Naismith's testimony is her apparent lack of knowledge of the short term improvements we have implemented, while seeking extensive long term improvements. For example, our Office of Flight Standards reviewed and updated indoctrination training for newly hired inspectors in 1986. They have also implemented a national electronic mail system to communicate guidance and information easily between our Flight Standards District Offices (FSDO) and Washington headquarters. Each FSDO has an extensive record keeping system concerning inspections.

We are pleased to note that even our long term improvements are not that far away. The human resource management portions of "Project SAFE" will be implemented this fiscal year. Portions of the handbooks and training will also be complete. While it is true that national data bases need to be developed, those systems are forthcoming. Programs are underway to provide the necessary technologies that will enable us to design and implement a "real time" information system for our FSDO's. The Office Automation Technology and Services (OATS) and Computer Resource Nucleus (CORN) are addressing current deficiencies in remote processing and mainframe capacity. These technologies should be available in FY 89. Plans to effect a real-time information processing environment will be realized after implementation of OATS and CORN.

Mr. Oberstar. Mr. Kern, the FAA operates a hotline for pilots and mechanics to report on an anonymous basis, information relating to aviation safety. For the purpose of getting on the record, or having corrections done, or calling FAA's attention to matters that presumably they've not been able to resolve satisfactorily within their own respective organizations. We have seen certain cases in which the airline company has taken action, disciplinary action against an employee whom they have determined to have called the FAA hotline.

Is it the practice of the FAA in taking up a discrepancy with an airline to identify in some way that caller? That is, by referring to circumstances in such a way that the company can through a process of elimination track it back to a suspect?

Mr. Kern. It certainly isn't the policy of the FAA to identify any one person identified with the program. We have in the past received a lot of valuable information from the hotline. In fact, at one point in time I think we found that we were able to take some kind of follow-up action on, to me, a significantly high percent. I think it was maybe 10 or 15 percent of the calls we received. We think it's valuable. We think an important part of that program is the anonymity that we try to provide for the people who actually use the system.

Mr. Oberstar. In the well-discussed case of Eastern Air Lines, flight 216, Tulsa-Kansas City-O'Hare, Tuesday's testimony indicated that the Eastern inspection was ordered at O'Hare by FAA because of a hotline call. Eastern today denied that the FAA directed them to undertake that inspection. That in fact it was Eastern management that notified FAA.

Could you comment on the two versions of that incident?

Mr. Kern. Yes, sir.

It's my impression then that there was a hotline call to the FAA, and that the FAA Office in Chicago was notified. I'm not sure who was first to the airplane and who actually towed it away, but I'll explain later what we're doing about it. If we weren't there first, we were on our way, and we were very close to being there.

But what I did want to tell you, since this was a rather complex—is a rather complex investigation involving lots of different people, maintenance people, pilots, four of our FAA regions and three different destination airports, we have a formal study in conjunction with the NTSB. We do believe there were some errors made in the initial diagnosis and inspection of the aircraft in Wichita. We need to look into that. We, too, will be recommending possible changes to the Boeing manual in accordance with the hard landing or the sideward load, or the overweight landing procedure to make sure it doesn't happen in the future.

So we did get a hotline call, I don't know who was first to the airplane. We're going to find out and we'll be happy to supply that detailed account to the committee when that investigation is complete.

Mr. Oberstar. That would be very helpful. I think it would be very important to clear up that point in our testimony. It certainly is a matter of very serious question in my mind, as to the information we received from Mr. Kolski today.

The reason I asked the first part of the question is I'm concerned that Eastern's management today said that they learned that a flight attendant called the hotline. How could they know that a flight attendant called the hotline? Would that be through a——

Mr. **Kern**. I don't know.

Mr. **Oberstar**. Slip-up in your system?

Mr. **Kern**. I don't know. Let me ask. I don't have any knowledge of whether it was a flight attendant or a mechanic or——

Mr. **Ramakis**. A flight attendant did call the hotline, but I don't know how Eastern knows that.

Mr. **Kern**. I didn't know it was a flight attendant.

[The following was received from Mr. Kern:]

INVESTIGATION OF EASTERN FLIGHT # 16

Immediately after the damaged Eastern aircraft was discovered an investigation was initiated by our Southern Region Their investigation has resulted in formal enforcement action against Eastern Airlines.

With reference to the specific question of who ordered the aircraft out of service at O'Hare, our investigation revealed the following:

When the aircraft was in Kansas City on a stopover from Tulsa, our Kansas City Flight Standards District Office (FSDO) was notified that there was a problem with the fuselage. However, by the time an FAA inspector arrived, the aircraft had departed for Chicago. Discovering that the aircraft had departed for Chicago, the inspector called the Chicago Air Carrier District Office and asked them to check the aircraft. At approximately the same time, the FAA Hotline in Washington received a call concerning the aircraft. The Hotline team then called our Chicago office. Having received two calls concerning the Eastern aircraft, the Chicago office immediately sent an inspector to O'Hare to investigate. According to our Acting Flight Standards Division Manager in Chicago, the FAA inspector arrived within minutes of the aircraft being taken out of service by Eastern Airlines. The aircraft was subsequently grounded. Temporary repairs were made and the aircraft was flown to Miami, on a non-revenue flight, for repairs.

Mr. **Oberstar**. It's got to have a very chilling effect upon the person who has the courage to make that call to think, you know, somebody's got a tag on me and I'm going to be followed now. I mean given the condescending attitude we saw displayed here, and the defiance on the part of the management person who testified today, signals certainly are shuttering out through that entity.

What do you think about whistle-blower protection written into law for airline company personnel, similar to those that are written into the Superfund Act and into the EPA law?

Mr. **Kern**. Well, I don't think I'm really competent to testify to that, Mr. Chairman.

Mr. **Oberstar**. Fair enough.

Does the hotline operate 24 hours a day?

Mr. **Kern**. Yes, sir.

Mr. **Oberstar**. It does.

Mr. **Kern**. We have another program that we've sponsored with NASA over the years that maybe you've heard of, the Aviation Safety Reporting Program——

Mr. **Oberstar**. Oh, yes. We've had——

Mr. **Kern**. Another anonymous program.

Mr. **Oberstar**. We've had NASA's people testify in the past on the matter of near mid-air collisions.

Coming back to flight 216, I'm very pleased to hear that you and the NTSB, together, are reviewing the incident, reviewing the complexity of the situation and the two differing procedures, that of American and that of Eastern, for inspection following a hard landing. We will make available to you the transcript of the pertinent parts of the hearing yesterday and today that show to me, discrepancies amounting to confusion and conflict over how to conduct an inspection under those circumstances. This is a classic case of something that really needs correction. And the FAA is the only one that can do it. And we need you to pursue with vigor, not just this incident for itself, but for what it reflects as a prism through which we look at the entire system.

If there are problems in contract maintenance there between two major carriers, there likely are other problems elsewhere that arise out of misunderstandings or lack of communication, and while there will always be those kinds of problems where people are involved, we want to minimize to the greatest degree possible when the American mechanic said, had this been an American aircraft, and we had the report of a hard landing, we don't distinguish being hard landing 1(a) and hard landing 1(b), we stop that aircraft and we totally review it from stem to stern. We weren't operating under American's manual, we were operating under Eastern's manual. These matters ought to be very clear because as we discovered later, there was pretty substantial damage to that aircraft. It could have been life threatening.

I questioned the three airline representatives about their spare parts and got the sense from Eastern that, "Well, you know it's a very expensive proposition. We can't have a lot of money tied up in spare parts around the country." The fact is if they hold themselves out as a carrier, they hold themselves out to maintain a level of responsibility and of a high degree of financial competence to carry out the responsibilities under their certificate. If they aren't able to maintain the spare parts, then they ought to get out of the business, or restrict to that which they can do. And I think that that's the view that the FAA ought to take. You ought to be looking very carefully at them.

Do you have standards for maintenance of spare parts at maintenance facilities in the domestic United States operated by the carriers, or is that covered by their manual?

Mr. **Kern**. Let me ask Mr. Ramakis to respond to that.

Mr. **Oberstar**. Please do.

Mr. **Kern**. The standard for spare parts and——

Mr. **Ramakis**. Yes. We have standards for everything that's on that airplane. The manufacturer has standards, there are technical standard orders, there are manuals, and they have to maintain the parts in accordance with these procedures that the FAA has approved.

Mr. **Oberstar**. Do you go a step further, though, as to maintenance facilities that the airlines operate throughout the United States? In the instant case we have 39 maintenance stations for Eastern Air Lines in the domestic United States; 28 for Northwest Airlines; 39 for American Airlines. And we heard from Northwest that they have four, possibly five classifications for cities of types of spare parts they're going to maintain at those cities. American has something similar. They have dollar amounts attached to that. Mr. Kolski was very vague and very imprecise and quite attempted to avoid the question as to the practice at his airline.

Mr. **Ramakis**. The FAA inspects all of the maintenance facilities of the air carrier, whether they have 3 or 39. It's a principal maintenance inspector's responsibility to audit those facilities periodically to make sure that the parts are there, to make sure that the manuals are there, revisions are there to the manuals, so they do the latest up-to-date repairs. And so it's a heavy responsibility for us, but further to that, the air carrier has a responsibility to do that, and most large air carriers have audit teams that they send around the country—and Eastern has one of those teams to make sure that things are okay from their end of it.

Mr. **Oberstar**. Well in the case of the altitude alerting system, they were first told there wasn't one available at Boston. They went on to LaGuardia, and eventually the part was supplied from the Boston facility. This is something internally awry with their system.

Mr. **Kern**. Let me just say that that particular situation, you know, it surprised me. And that is one of the items that we received a card on. In addition to the address list that Congressman Mineta talked about, FAA also gets a set of cards. So we end up with Mr. Mineta's cards, Secretary Dole's cards, and the Administrator's cards. One of those cards, or maybe two or three, did indicate several occasions that the altitude alerters were inoperative for a long period of time, two to three weeks. That is something we have under investigation. I think we have the same question you have. How are you living up to your obligation to be a certified air carrier and not have parts to be able to fix something like an altitude alerter in a 3-week period?

That is one of the requirements to hold that certificate to be an operating air carrier.

Mr. **Oberstar**. Does—following further on that question, is Eastern right when they say that aircraft can take off and fly without an altitude alerter?

Mr. **Kern**. That's true. And that's the dilemma——

Mr. **Oberstar**. Is that legal?

Mr. **Kern**. Yes, sir.

Mr. **Oberstar**. Is it safe?

Mr. **Kern**. I believe it is. It's an approved procedure that is included in that manual I handed to the committee earlier. Once again, let me say, it was never the intention though when the FAA granted the relief to operate that aircraft without the altitude alerter inoperative, in other words, it was never the intention of the FAA to allow that aircraft to operate indefinitely. The intention of the FAA was that it would be repaired when it arrived at the next maintenance facility. Now, as I said earlier, though, we have always allowed carriers the privilege of not repairing it at a maintenance facility on occasion when the parts are not available. It's been a practice that's been in the industry. It's been a practice to my knowledge, anyway, that has not been abused.

However, we have numerous allegations that it is being abused these days, and that's why we're conducting the inspection.

Mr. **Oberstar**. All right.

Has the FAA approved MEL's in conflict with FAR's?

Mr. **Kern**. If you look at the part 91 FAR that you referred to earlier, it does provide for a certain amount of relief from the requirement to have an operative altitude alerting capability. I believe it has the terminology, if it fails after departure, you may continue until you arrive at the next maintenance facility. Basically that's what the MEL says. I believe the MEL is consistent with what is in Part 91 of the regulation.

Mr. **Oberstar**. A subsequently issued—or an MEL issued subsequent to an FAR does not supplant the FAR?

Mr. **Kern**. Well, but if you look at the language in part 91, and in fact that relief is part of the language of that section of part 91. And it's almost verbatim, the language in the MEL and the language in the regulation. It's not as precise and it's not absolutely identical, but I think my interpretation of it, and obviously the interpretation of the attorneys who drafted both the parts I'm talking about, is that they are the same.

Mr. **Oberstar**. Well, the interpretation the carrier gave to the incident and to the situation defies any clear reading of the English language of that regulation. And it's clearly to me an area that needs to be further reviewed.

Mr. **Kern**. Absolutely.

Mr. **Oberstar**. And further tightened up by the FAA.

How many air carrier inspectors are currently certified, qualified and operational with the FAA?

Mr. **Kern**. Let me first say that I'd like to supply those numbers to you for the record, because I want them to be very precise. Now, but having said that, that our goal for the end of last fiscal year was to have 1,919 inspectors in our Flight Standards organization. In round terms about half of those are air carrier inspectors. So there are almost 1,000 air carrier inspectors, both operations, avionics and maintenance in the United States.

Let me supply those precise numbers for you for the record, if I could.

Mr. **Oberstar**. Certainly. We won't hold you in your oral testimony to the precise number, but you can supply that for the record, that's correct.

[The following was received from Mr. Keen:]

AVIATION SAFETY FIELD INSPECTOR STAFFING HISTORY

	FY-80	FY-81	FY-82	FY-83	FY-84	FY-85	FY-86	FY-87	FY-88
AUTHORIZED POSITIONS									
Air Carrier									
Operations Insp.	407	419	351	349	371	371	396	462	502
Airworthiness Insp.	233	255	225	220	303	303	332	383	417
Sub Total	640	674	576	569	674 *	674	728	845	919
General Aviation									
Operations Insp.	635	675	583	577	578	580	625	706	768
Airworthiness Insp.	346	399	388	348	354	356	407	469	511
Sub Total	981	1074	971	925	932 *	936	1032	1175	1279
Inspector Total	1621	1748	1547	1494	1606 *	1610	1760	2020	2198
EMPLOYMENT **									
Air Carrier									
Operations Insp.	376	387	302	311	370	369	411	422	422
Airworthiness Insp.	216	236	247	196	304	304	339	375	388
Sub Total	592	623	549	507	674	673	750	797	810
General Aviation									
Operations Insp.	587	623	549	514	381	425	563	674	665
Airworthiness Insp.	320	369	325	310	339	377	500	468	480
Sub Total	907	992	874	824	720	802	1063	1142	1145
Inspector Total	1499	1615	1423	1331	1394	1475	1813	1939	1955

* Reflects 166 position increase authorized by the Secretary of Transportation. Previous FY-84 authorized limit was 1,440.

** Onboard staffing as of October 23, 1987. Staffing includes accident prevention specialists aircraft evaluation groups, field office managers, and technical specialists assigned the Aviation Standards National Field Office. Data for FY-80 through FY-84 based on consolidated personnel management informationsystem (CPMIS) adjusted to compensate for organization consolidations and report format changes. Data for FY-85, FY-86, and FY-87 based on regional monthly reports.

Mr. **Oberstar**. How do you feel about the adequacy of those numbers in relation to the number of aircraft in the commercial fleet, the growth, the spread of operations, the changes in the system and this deregulated environment? Is it adequate? Do you need more people?

Mr. **Kern**. We've recognized and we've requested and been authorized for the last several fiscal years, increases in our staffing, in the Flight Standards inspection area. And that will continue through fiscal year 1988, 1989, and 1990. We've had to reprioritize our work programs, putting emphasis on surveillance and inspection, and decrease our work load in the areas of certification and some other activities that we don't think are quite as important as our inspection and surveillance role.

So yes, we do need more people. We've requested them, and so far we've had approval to hire them over the past few years.

Mr. **Oberstar**. Thank you very much.

Mr. **Kern**. Yes, sir.

Mr. **Oberstar**. I want to thank you for your very refreshing testimony, candid, straightforward, very encouraging about the conduct of the maintenance surveillance by the FAA. This is an area where we need to be preventive. And we need to be looking ahead, not looking back so much as looking ahead at what problems may be down the road. Learning from the past, learning from the flight 216 incidents, and learning from the hotline problems, and learning from the altitude alerter system type of problem, and the spare parts problems we've incurred in the past. Curing those, and also looking ahead to the rather rapidly developing changes in aviation, and the way airlines conduct their economic business and its effect upon maintenance, and consequently upon safety. And to the extent that the FAA is looking over the horizon and anticipating changes, and adjusting to them, the airlines are going to be more responsive, and more alert, and more sensitive.

You are the watchdog. The public looks to you, the FAA, to assure and to guarantee, even more than to the airline itself. They know as a Federal agency standing behind every one of those actions that an airline takes, you carry immense responsibility and an immense level of trust. And to the extent our role as an oversight committee is pursued, it's pursued in that vein of seeing that the watchdogs maintain the level of trust and oversight that is required.

So on that note, I want to thank you for your presentation here today. The subcommittee will stand adjourned.

Mr. **Kern**. Thank you, sir.

[Mr. Kern's prepared statement follows:]

STATEMENT OF JOHN S. KERN, DEPUTY ASSOCIATE ADMINISTRATOR FOR AVIATION STANDARDS, FEDERAL AVIATION ADMINISTRATION, BEFORE THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, SUBCOMMITTEE ON INVESTIGATION AND OVERSIGHT, CONCERNING AIRLINE MAINTENANCE. OCTOBER 21, 1987.

Mr. Chairman and Members of the Subcommittee:

I am pleased to appear before the Subcommittee today to discuss airline maintenance practices and FAA maintenance requirements.

The FAA has found that the key requirement for a sound maintenance operation is a strong management commitment on assuring the adequacy of the airline's maintenance system. This need for senior management attention to maintenance was evident prior to deregulation, and remains particularly so today. In fact, one of Administrator McArtor's Impact 88 initiatives calls for increased accountability by airline executives, by asking them to demonstrate the same degree of care and accountability for aircraft maintenance and safety practices as they take for their airline financial statements. The challenge which faces the FAA is to conduct our maintenance surveillance in such a way as to identify those operators who do not insist on strict compliance with the Federal Aviation Regulations or FAR's, and for us to continue to watch them closely, taking strong enforcement action when called for.

In the early years of deregulation our surveillance of airline maintenance practices simply was not adequate either in terms of level or quality of effort. We reached this conclusion after comprehensive inspections of the industry, as well as critical self-examination of our own efforts. We have since taken strong remedial action to address these deficiencies by increasing our inspector staffing and making a number of refinements in our surveillance program. We now have in place national guidelines which prescribe minimum levels of inspection activity for each segment of the aviation industry. Further, we have instituted special in-depth inspections of all air carriers on a cyclical basis. These inspections are conducted by teams that evaluate a carrier's activities in a level of detail which is simply not feasible in our routine surveillance. Not only will this enable us to better determine compliance with the FAR's, but we expect that it will serve as an important deterrent to those who might otherwise seek to evade their safety responsibilities. Moreover, the national programs we have established provide for an overall surveillance program which is more balanced than before, assuring that adequate maintenance surveillance is exercised over all air carriers.

I would now like to give you a brief overview of the FAA's maintenance requirements which govern all air carriers. These general maintenance requirements are found in Part 121, Subpart L, of the Federal Aviation Regulations, 49 CFR 121, a copy of which is attached to my prepared statement.

An air carrier's maintenance program consists of maintenance, specifications, instructions for accomplishing maintenance and inspections, and program management. The initial maintenance specification is determined by a Maintenance Review Board or MRB, which is convened and chaired by the FAA to review and approve an initial maintenance specification for each new model aircraft. The specification is developed by an MRB steering committee consisting of working groups made up of air carriers purchasing the aircraft, the aircraft and engine manufacturers, other component manufacturers, and FAA personnel.

Once the maintenance specification has been developed, the air carrier incorporates the specification into its maintenance control system to schedule accomplishment of each maintenance task within the time limitation specified by the specification. The air carrier submits this schedule for FAA approval at such time as the preparation of its entire maintenance program for the new aircraft has been completed. Formal approval of the specification by the FAA constitutes approval of the air carrier's entire maintenance program as it relates to that model aircraft. When the specification is signed by both parties, it becomes a regulatory document and is enforceable when noncompliance is determined. Revisions to the specifications are individually approved by the FAA or in accordance with special procedures approved by the FAA allowing the air carrier to revise the specification.

In addition to maintenance specifications, the aircraft manufacturer is required by regulation to provide detailed instructions necessary for the proper maintenance of the aircraft. The FAA reviews these instructions for adequacy and consistency with safe maintenance practices. This process must be completed to our satisfaction prior to delivery of the first aircraft to the air carrier.

The air carrier adopts these instructions as a basis for the maintenance manuals required by the FAR's. Normally, the manufacturer's instructions are adopted verbatim; however, the air carrier may make changes to accommodate operational differences. These manuals are not formally approved by the FAA, but any content which we find objectionable must be corrected before the air carrier's maintenance program for that aircraft is approved. The importance of maintenance manuals cannot be overstated for they provide detailed and general instructions for methods, techniques, and practices for maintenance activities. The manuals are continually revised as a result of service experience, improved support equipment, recognition of the need for more detail, modifications, service difficulties, airworthiness directives and other factors, including changes required by the

FAA. The continuing revision of maintenance manuals is indicative of a strong, viable maintenance program.

Under the FAR's, an air carrier is always responsible for the airworthiness of its aircraft. To ensure airworthiness, an air carrier is obligated to have (either in its own organization or under contract) a sufficient number of trained maintenance personnel, adequate facilities and equipment required to perform maintenance, an ample supply of spare parts, as well as a management and quality control infrastructure.

The FAR's also require that an air carrier have a continuing analysis and surveillance system. A continuing analysis and surveillance system must be able to evaluate how the air carrier's maintenance program is administered and controlled and to monitor the performance of the air carrier's fleet and equipment through data collection, analysis, and a process to take corrective action. It is important to note that the FAR's prohibit an air carrier from contracting out its responsibility for continuing analysis and surveillance.

The proliferation of new air carriers as a result of deregulation has seen an increase in contract maintenance, since many of these carriers did not have an in-house maintenance capability. We have found as a result of our surveillances and in-depth inspections that the quality of a contract maintenance program is usually dependent upon six factors:

1. Whether the contractor has adequate facilities and equipment to provide all maintenance tasks under the contract.

2. Whether the contractor is certified by the FAA to conduct the maintenance tasks called for in the contract.

3. Whether the contractor has sufficient numbers of trained personnel, certified by the FAA, to perform called for maintenance tasks in accordance with the air carrier's approved maintenance program.

4. Whether the contractor has all the required air carrier manuals and an established system to ensure that manuals are kept current.

5. Whether the contractor has a quality control system to ensure spare parts or repaired parts are received from approved sources, acceptable under the air carrier's approved maintenance program.

6. Whether the air carrier has an audit system to ensure that the contractor actually conducts the maintenance tasks called for in the contract.

As noted, the FAR's permit contract maintenance and there is not an inherent problem with contract maintenance. We are concerned, however, that air carriers using contract maintenance conduct adequate oversight of those maintenance functions.

Another area of concern with air carrier maintenance practices is possible abuse of the minimum equipment list or MEL. The FAR's permit air carriers to maintain a MEL, which grants an air carrier the authority to operate an aircraft with certain items or components inoperative. Experience has shown that the operation of every system or component installed on an aircraft is not necessary when remaining operative instruments and equipment provide continued safe operation for a limited time until repairs are made. For example, an MEL may permit the dispatch of an aircraft with one generator inoperative when the aircraft has multiple electrical systems. The MEL does not include obviously required items such as wings, flaps, engines, or landing gear. The MEL does not include items which do not affect the airworthiness of the aircraft, such as galley equipment, entertainment systems, or passenger convenience items. The FAR's require, however, that all items which are related to the airworthiness of the aircraft and not included on the MEL are automatically required to be operative.

To determine whether the MEL needs to be tightened up and whether maintenance is being unreasonably deferred, we recently conducted an MEL audit of eleven air carriers. The results of that audit are currently being analyzed, and we are considering strengthening our current requirements to reduce deferral of maintenance items for prolonged periods.

Before closing Mr. Chairman, I would like to briefly focus on the issue of record keeping by air carriers. We sometimes hear that FAA inspectors spend too little time inspecting aircraft and too much time following paper trails. You may read or hear, especially when the FAA is seeking enforcement action as a result of an inspection, that the violations are only "paper work" violations. Don't be misled. Accurate and comprehensive record keeping is at the heart of aviation safety. The FAA believes that an effective maintenance program requires an effective record keeping system. It would be impossible and impracticable for the FAA to even attempt to inspect every aircraft in the civil aviation fleet. Therefore, we must be able to access an air carriers records and they must be timely and accurate in nature, for example, the current status of airworthiness directives.

Each air carriers is required to establish in its manual a system which describes its methods of operation and procedures which all personnel employed by the carrier must follow to ensure compliance with the FAR's. Specifically, the air carrier must establish and maintain a maintenance recording system by which its personnel or FAA inspectors can retrieve a description of any work performed on an aircraft or a reference to data acceptable to the FAA.

Regulations require the air carrier to retain extensive records containing among other items the total time in service of the airframe; the current status of life limited parts of each airframe, engine, propeller, rotor, and appliance; the time since the last overhaul of all items installed on the aircraft which are to be overhauled on a specified time basis; the current inspection status of the aircraft; current status of applicable airworthiness directives, including the method of compliance; and current, major alterations to each airframe, engine, propeller, rotor, and appliance. This information is critical to overseeing a continuing airworthiness program, and inadequate or poorly kept records can easily lead to a failure in performing necessary maintenance and repairs.

With regard to the importance of good record keeping, I am pleased to note that Congress recently enacted legislation which provides significant criminal sanctions for the intentional failure to file reports required by the FAA as well as for the falsification of such reports. The legislation provides both significant fines and prison terms up to five years for a violation. We think this measure helps focus attention on the seriousness which must be attached to accurate and comprehensive record keeping.

Mr. Chairman, that concludes my prepared remarks. I would be pleased to respond to any questions you or other Members of the Subcommittee may have.

Subpart L—Maintenance, Preventive Maintenance, and Alterations

SOURCE: Docket No. 6258, 29 FR 19210, Dec. 31, 1964, unless otherwise noted.

§ 121.361 Applicability.

(a) Except as provided by paragraph (b) of this section, this subpart prescribes requirements for maintenance, preventive maintenance, and alternations for all certificate holders.

(b) The Administrator may amend a certificate holder's operations specifications to permit deviation from those provisions of this subpart that would prevent the return to service and use of airframe components, powerplants, appliances, and spare parts thereof because those items have been maintained, altered, or inspected by persons employed outside the United States who do not hold U.S. airman certificates. Each certificate holder who uses parts under this deviation must provide for surveillance of facilities and practices to assure that all work performed on these parts is accomplished in accordance with the certificate holder's manual.

(Secs. 101, 903, 72 Stat. 737, 747; 49 U.S.C. 1301, 1344)

[Amdt. 121-44, 33 FR 14406, Sept. 25, 1968]

§ 121.363 Responsibility for airworthiness.

(a) Each certificate holder is primarily responsible for—

(1) The airworthiness of its aircraft, including airframes, aircraft engines, propellers, appliances, and parts thereof; and

(2) The performance of the maintenance, preventive maintenance, and alteration of its aircraft, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof, in accordance with its manual and the regulations of this chapter.

(b) A certificate holder may make arrangements with another person for the performance of any maintenance, preventive maintenance, or alterations. However, this does not relieve the certificate holder of the responsibility specified in paragraph (a) of this section.

[Doc. No. 6258, 29 FR 19210, Dec. 31, 1964, as amended by Amdt. 121-106, 38 FR 22378, Aug. 20, 1973]

§ 121.365 Maintenance, preventive maintenance, and alteration organization.

(a) Each certificate holder that performs any of its maintenance (other than required inspections), preventive maintenance, or alterations, and each person with whom it arranges for the performance of that work must have an organization adequate to perform the work.

(b) Each certificate holder that performs any inspections required by its manual in accordance with § 121.369(b)(2) or (3) (in this subpart referred to as "required inspections") and each person with whom it arranges for the performance of that work must have an organization adequate to perform that work.

(c) Each person performing required inspections in addition to other maintenance, preventive maintenance, or alterations, shall organize the performance of those functions so as to separate the required inspection functions from the other maintenance, preventive maintenance, and alteration functions. The separation shall be below the level of administrative control at which overall responsibility for the required inspection functions and other maintenance, preventive maintenance, and alteration functions are exercised.

[Doc. No. 6258, 29 FR 19210, Dec. 31, 1964, as amended by Amdt. 121-3, 30 FR 3639, Mar. 19, 1965]

§ 121.367 Maintenance, preventive maintenance, and alterations programs.

Each certificate holder shall have an inspection program and a program covering other maintenance, preventive maintenance, and alterations that ensures that—

(a) Maintenance, preventive maintenance, and alterations performed by it, or by other persons, are performed in accordance with the certificate holder's manual;

(b) Competent personnel and adequate facilities and equipment are provided for the proper performance of maintenance, preventive maintenance, and alterations; and

(c) Each aircraft released to service is airworthy and has been properly maintained for operation under this part.

[Doc. No. 6258, 29 FR 19210, Dec. 31, 1964, as amended by Amdt. 121-100, 37 FR 28053, Dec. 20, 1972]

§ 121.369 Manual requirements.

(a) The certificate holder shall put in its manual a chart or description of the certificate holder's organization required by § 121.365 and a list of persons with whom it has arranged for the performance of any of its required inspections, other maintenance, preventive maintenance, or alterations, including a general description of that work.

(b) The certificate holder's manual must contain the programs required by § 121.367 that must be followed in performing maintenance, preventive maintenance, and alterations of that certificate holder's airplanes, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof, and must include at least the following:

(1) The method of performing routine and nonroutine maintenance (other than required inspections), preventive maintenance, and alterations.

(2) A designation of the items of maintenance and alteration that must be inspected (required inspections), including at least those that could result in a failure, malfunction, or defect endangering the safe operation of the aircraft, if not performed properly or if improper parts or materials are used.

(3) The method of performing required inspections and a designation by occupational title of personnel authorized to perform each required inspection.

(4) Procedures for the reinspection of work performed pursuant to previous required inspection findings ("buy-back procedures").

(5) Procedures, standards, and limits necessary for required inspections and acceptance or rejection of the items required to be inspected and for periodic inspection and calibration of precision tools, measuring devices, and test equipment.

(6) Procedures to ensure that all required inspections are performed.

(7) Instructions to prevent any person who performs any item of work from performing any required inspection of that work.

(8) Instructions and procedures to prevent any decision of an inspector, regarding any required inspection from being countermanded by persons other than supervisory personnel of the inspection unit, or a person at that level of administrative control that has overall responsibility for the management of both the required inspection functions and the other maintenance, preventive maintenance, and alterations functions.

(9) Procedures to ensure that required inspections, other maintenance, preventive maintenance, and alterations that are not completed as a result of shift changes or similar work interruptions are properly completed

before the aircraft is released to service.

(c) The certificate holder must set forth in its manual a suitable system (which may include a coded system) that provides for preservation and retrieval of information in a manner acceptable to the Administrator and that provides—

(1) A description (or reference to data acceptable to the Administrator) of the work performed;

(2) The name of the person performing the work if the work is performed by a person outside the organization of the certificate holder; and

(3) The name or other positive identification of the individual approving the work.

[Doc. No. 6258, 29 FR 19210, Dec. 31, 1964, as amended by Amdt. 121-94, 37 FR 15983, Aug. 9, 1972; Amdt. 121-106, 38 FR 22378, Aug. 20, 1973]

§ 121.371 Required inspection personnel.

(a) No person may use any person to perform required inspections unless the person performing the inspection is appropriately certificated, properly trained, qualified, and authorized to do so.

(b) No person may allow any person to perform a required inspection unless, at that time, the person performing that inspection is under the supervision and control of an inspection unit.

(c) No person may perform a required inspection if he performed the item of work required to be inspected.

(d) Each certificated holder shall maintain, or shall determine that each person with whom it arranges to perform its required inspections maintains, a current listing of persons who have been trained, qualified, and authorized to conduct required inspections. The persons must be identified by name, occupational title, and the inspections that they are authorized to perform. The certificated holder (or person with whom it arranges to perform its required inspections) shall give written information to each person so authorized describing the extent of his responsibilities authorities, and inspectional limitations. The list shall be made available for inspection by the Administrator upon request.

§ 121.373 Continuing analysis and surveillance.

(a) Each certificate holder shall establish and maintain a system for the continuing analysis and surveillance of the performance and effectiveness of its inspection program and the program covering other maintenance, preventive maintenance, and alterations and for the correction of any deficiency in those programs, regardless of whether those programs are carried out by the certificate holder or by another person.

(b) Whenever the Administrator finds that either or both of the programs described in paragraph (a) of this section does not contain adequate procedures and standards to meet the requirements of this part, the certificate holder shall, after notification by the Administrator, make any changes in those programs that are necessary to meet those requirements.

(c) A certificate holder may petition the Administrator to reconsider the notice to make a change in a program. The petition must be filed with the FAA Air Carrier District Office charged with the overall inspection of the certificate holder's operations within 30 days after the certificate holder receives the notice. Except in the case of an emergency requiring immediate action in the interest of safety, the filing of the petition stays the notice pending a decision by the Administrator.

§ 121.375 Maintenance and preventive maintenance training program.

Each certificate holder or person performing maintenance or preventive maintenance functions for it shall have a training program to ensure that each person (including inspection personnel) who determines the adequacy of work done is fully informed about procedures and techniques and new equipment in use and is competent to perform his duties.

§ 121.377 Maintenance and preventive maintenance personnel duty time limitations.

Within the United States, each certificate holder (or person performing maintenance or preventive maintenance functions for it) shall relieve each person performing maintenance or preventive maintenance from duty for a period of at least 24 consecutive hours during any seven consecutive days, or the equivalent thereof within any one calendar month.

§ 121.378 Certificate requirements.

(a) Except for maintenance, preventive maintenance, alterations, and required inspections performed by repair stations certificated under the provisions of Subpart C of Part 145, each person who is directly in charge of maintenance, preventive maintenance, or alteration, and each person performing required inspections must hold an appropriate airman certificate.

(b) For the purposes of this section, a person "directly in charge" is each person assigned to a position in which he is responsible for the work of a shop or station that performs maintenance, preventive maintenance, alterations, or other functions affecting aircraft airworthiness. A person who is "directly in charge" need not physically observe and direct each worker constantly but must be available for consultation and decision on matters requiring instruction or decision from higher authority than that of the persons performing the work.

[Doc. No. 6258, 29 FR 19210, Dec. 31, 1964, as amended by Amdt. 121-21, 31 FR 10618, Aug. 9, 1966]

§ 121.379 Authority to perform and approve maintenance, preventive maintenance, and alterations.

(a) A certificate holder may perform, or it may make arrangements with other persons to perform, maintenance, preventive maintenance, and alterations as provided in its continuous airworthiness maintenance program and its maintenance manual. In addition, a certificate holder may perform these functions for another certificate holder as provided in the continuous airworthiness maintenance program and maintenance manual of the other certificate holder.

(b) A certificate holder may approve any aircraft, airframe, aircraft engine, propeller, or appliance for return to service after maintenance, preventive maintenance, or alterations that are performed under paragraph (a) of this section. However, in the case of a major repair or major alteration, the work must have been done in accordance with technical data approved by the Administrator.

[Amdt. 121-69, 35 FR 16793, Oct. 30, 1970]

§ 121.380 Maintenance recording requirements.

(a) Each certificate holder shall keep (using the system specified in the manual required in § 121.369) the following records for the periods specified in paragraph (b) of this section:

(1) All the records necessary to show that all requirements for the issuance of an airworthiness release under § 121.709 have been met.

(2) Records containing the following information:

(i) The total time in service of the airframe.

(ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance.

(iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis.

(iv) The identification of the current inspection status of the aircraft, including the times since the last inspections required by the inspection program under which the aircraft and its appliances are maintained.

(v) The current status of applicable airworthiness directives, including the method of compliance.

(vi) A list of current major alterations to each airframe, engine, propeller, rotor, and appliance.

(b) Each certificate holder shall retain the records required to be kept by this section for the following periods:

(1) Except for the records of the last complete overhaul of each airframe, engine, propeller, rotor, and appliance, the records specified in paragraph

(a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed.

(2) The records of the last complete overhaul of each airframe, engine, propeller, rotor, and appliance shall be retained until the work is superseded by work of equivalent scope and detail.

(3) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold.

(c) The certificate holder shall make all maintenance records required to be kept by this section available for inspection by the Administrator or any authorized representative of the National Transportation Safety Board (NTSB).

[Amdt. 121-94, 37 FR 15983, Aug. 9, 1972]

§ 121.380a Transfer of maintenance records.

Each certificate holder who sells a U.S. registered aircraft shall transfer to the purchaser, at the time of sale, the following records of that aircraft, in plain language form or in coded form at the election of the purchaser, if the coded form provides for the preservation and retrieval of information in a manner acceptable to the Administrator:

(a) The record specified in § 121.380(a)(2).

(b) The records specified in § 121.380(a)(1) which are not included in the records covered by paragraph (a) of this section, except that the purchaser may permit the seller to keep physical custody of such records. However, custody of records in the seller does not relieve the purchaser of his responsibility under § 121.380(c) to make the records available for inspection by the Administrator or any authorized representative of the National Transportation Safety Board (NTSB).

[Amdt. 121-94, 37 FR 15984, Aug. 9, 1972]

[Whereupon, at 7:30 p.m., the subcommittee was adjourned.]

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